OUTSTANDING SOVIET PSYCHOLOGISTS

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Lev Vygotsky

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Introduction

It can hardly be doubted in these days that the Russian scholar Lev Semyonovich Vygotsky (1896–1934) is a star of the first magnitude in the sky of modern psychology, a star which shines ever brighter with the passage of time. This is home out by the opinions of many Western scientists. The outstanding American psychologist Jerome Bruner, so chary of praise, said in 1977: "Every psychologist who has studied cognitive processes in the past 25 years, should acknowledge the great impact made on him by the works of Lev Vygotsky." In the following year, another well-known American scholar Stephen Toulmin, in an article about Vygotsky written for *The New York Review of Books*, referred to him as "the Mozart of psychology". In the view of Dr. Bernstein of London University, continuation of Vygotsky's work, which "opened the way to a unification of the biological and social studies", may "have at least as great a significance for science as the deciphering of the genetic code".

In his native country, Vygotsky gained fame as an outstanding researcher in psychology as early as the 1920s. In the West, though, he was very little known then. The only time he went abroad was in 1926. On that occasion he read a paper on the principles of teaching deaf-and-mute children in Russia at an international conference in London. In 1929, his report, prepared together with Alexander Luria, another prominent Soviet psychologist and a follower of Vygotsky, was read at the *IX International Psychological Congress* in the USA. Their paper dealt with a very specialist subject – the so-called egocentric child speech, i.e., a child's utterances that are not addressed to a listener.

Underlying the discussion of this strange phenomenon, observed

in small children and disappearing by the beginning of the school age, was an innovative theory of the mechanism of the work of the human mind, a theory that was destined to occupy a prominent place in world psychology. We must mention a curious historical fact at this point. Another future giant of psychology, the young Swiss scholar Jean Piaget, also spoke on the same subject at the same International Congress of Psychologists. Vygotsky and Piaget discussed one and the same phenomenon, certain identical facts, but their explanations of these facts were quite different, the divergence reflecting a fundamental difference in philosophical orientation. However, neither the problem of egocentric speech itself nor its different interpretations attracted the attention of the Congress. Most participants were American psychologists, and these recognised only one trend as strictly scientific. That trend was behaviourism, which insisted on the study of external behaviour, that is, of the organism's reactions to external stimuli, rejecting any interest in psychical phenomena, in the inner mental processes.

The behaviourists regarded Ivan Pavlov as the father of that type of psychology, so that the main event of the Congress was the speech by the great old man, eighty-year-old Pavlov who had travelled across the ocean to be received with thunderous applause. Pavlov was seen as the principal figure in Russian Soviet psychology. Several decades later it would be Vygotsky who would be perceived as such a figure. This radical shift in the assessment of the ideological forces determining the image of psychology in the Soviet Union, reflected an evolution in the views on the psyche in world science. Behaviourism, triumphant in the 1920s, later lost its former positions in American psychology, giving way to a trend known as *cognitivism*. The so-called cognitive paradigm took shape. The cognitive processes which serve as tools of acquiring information about reality gradually became the focus of psychological study. Interest in man's information-related activity sharply increased with the advent of the computer era.

The achievements of the scientific and technological revolution led to the appearance of new machines capable of receiving and processing information. Such terms as "memory", "intellect" and others became part of technological thinking – a process which reflected the need for the description of computers' specific properties. Behaviourism had

refused to study these properties as specific inner processes in human activity. Now information devices proved to be capable of performing certain acts similar to that activity. It was this fact that conditioned the shift towards cognitivism in the entire area of psychological knowledge.

Along with this shift, there came a change in the notions of the nature of the basic stock of that knowledge. It was at that point in time that Vygotsky's work, which centred on explaining the dynamics of psychical processes, began to attract considerable attention. The work of Western researchers in the psychology of knowledge, including American ones, was and still is influenced by Vygotsky's studies, as indicated by Bruner's evaluation of Vygotsky's impact on them quoted above. It can thus be said that, just as the work of Pavlov gave a powerful impetus to the development of world psychology in the first quarter of the 20th century, so did the work of Vygotsky give such an impetus to its development in the third quarter of this century. This fact was obviously conditioned by the objective situation in science, by the need for the ideas, approaches and paradigms engendered in Russia.

There exists an objective logic of the development of scientific knowledge that is independent of the national substratum. The work of both Russian scientists reflected the needs of this objective logic and the imminent shifts in psychology leading into the future. That was why they did their pioneering research in areas that determined the character of world psychology at different epochs: Pavlov, in the objective study of behaviour, and Vygotsky, in the objective study of the psychology of cognition. Both opened new chapters in the chronicle of world psychological thought. When we state that the evolution of scientific ideas is subject to objective laws owing to the international character of science, it should be borne in mind that the course of this evolution is determined by the specific features of the socio-cultural context in which knowledge is born and later transformed.

Pavlov and Vygotsky were trailblazers and leaders of prevailing trends, but the sources of their innovations did not lie in their personal genius only – first and foremost, these sources must be sought for in the social and ideological atmosphere in which they worked; only by absorbing that atmosphere they were able to realise their personality potential. It is easy to demonstrate this view by considering the turning

points in their thinking that led them to new approaches and problem areas. Pavlov discovered conditioned reflexes after gaining world fame by his works on the physiology of digestion. It was these works that brought him the Nobel Prize. He was past fifty when, after much painful soul-searching, he left the area of research which had made his name famous and began the study of mechanisms regulating behaviour.

Independently from him, researchers in various countries of the world turned to the study of these phenomena at approximately the same time. After reading American works, Pavlov himself later wrote that "the honour of being the first to have set out along the new path belongs to Thorndike, who anticipated our experiments by some two or three years".[1] Edward Thorndike anticipated Pavlov's experiments in teaching animals new forms of behaviour, but Pavlov, as we shall later see, moved in a direction different from the one chosen by American psychologists. The sources of the differences lay in the fact that each of the researchers relied on traditions created by original cultures – Russian and American. That was what affected the character of scientific quests determined, we repeat, by the objective logic of the movement of knowledge. It was this logic that fundamentally changed the direction of the famous physiologist's search.

1. I. P. Pavlov, *Polnoye sobraniye sochinenii (Complete Works, In Russian)*, 2nd ed., vol. 3, 1 (Moscow–Leningrad, 1951), p. 15.

The situation was much the same when Vygotsky, who at first specialised in aesthetics and literary criticism, began to study psychological problems. It is difficult to divine what the achievements of this extremely talented thinker in this area would be if he had not become, soon after the victory of the October Revolution in Russia, a teacher at a Soviet school, if he had not absorbed the new ideology of Marxism, its philosophical theory, which became an established feature of the social consciousness, It was this theory that directed his thinking to wards working out the fundamental problems of psychology from a new angle. His principal achievements were, as we have pointed out, several discoveries in the psychology of cognition. He was not a lonely figure forging ahead in this area. The attention of a number of West European researchers was also focused on these problems, especially on the relations between thought and speech. Let us recall, in particular, egocentric speech, which was first accorded the status of a psychologically interesting phenomenon after the works of Jean Piaget.

Just as Thorndike was a forerunner of Pavlov, Piaget was in this

instance a forerunner of Vygotsky. In both cases, however, the paths of the Russian and Western researchers diverged. That was only natural, since these paths lay in the domains of two different cultures. But Pavlov and Vygotsky were brought up in an identical frame of cultural values. Whatever the differences between their systems of views (due to the fact that they represented two different phases in the development of psychological knowledge), they were closely linked by the ties of a common cultural tradition. Although Vygotsky had no personal contacts with Pavlov, he was trained in the Pavlov school. Vygotsky relied on Pavlov's theories as the foundation of a new psychology, stressing at the same time that one could not judge from the shape of the foundation what sort of building would be erected on it. Vygotsky continued the cause of Pavlov, but he took it in a direction that led beyond the framework of biological explanation of the behaviour of living beings.

The progressive ideology of that epoch was a materialist philosophy of man. It was expressed in Nikolai Chernyshevsky's *The Anthropological Principle in Philosophy* and Ivan Sechenov's treatise *Brain Reflexes*. Relying on certain data concerning the functions of the higher nervous centres, Sechenov provided truly innovative answers to these questions: Who should develop psychology? How must the development proceed? These answers were fundamentally different from the conception of the tasks and possibilities of psychology that was then established in Western countries, where the development of psychology was dominated by the subjective method. The study of consciousness was reduced to the subject's own account of his experiences as elements of his inner world lying outside the corporeal external world. Seeing this as yet another version of dualism, which split man into body and soul, Sechenov endeavoured to prove that psychology would become a true science only when it discovered, with the aid of an objective method, the mechanisms of psychical regulation of the integral organism.

This precept of Sechenov inspired Pavlov throughout the 35 years of the objective study of the higher nervous activity. Summing up his experiences, Pavlov wrote:

> Yes, I rejoice in that, together with Ivan Mikhailovich [Sechenov] and the host of my dear colleagues, we brought the whole indivisible animal organism, instead of a half of it, under the mighty power of psysiological

> research. And this is entirely to be credited to our Russian science as part of world science, as part of human thought in general.[2]

That was indeed a great achievement of Russian science. And science, as we know, is an in separable part of culture in which a definite image of man, of the forces ruling his life, and of his predestination takes shape. In the context of Russian culture and its role in the struggle for a new Russia, the works of Sechenov and Pavlov were a reflection of the historical need for a causal and strictly objective knowledge of man as an integral being whose behaviour is subject to the laws of the material world. Russian scholars were least of all inclined to regard man as a mechanical device or apparatus automatically reacting to external stimuli. Ivan Pavlov ended his first programmatic speech with these words:

> Sooner or later, science will transfer the acquired objective data onto our subjective world on the basis of similarity or identity of external manifestations, and it will thereby shed a sudden bright light on our so mysterious nature, elucidating the mechanism and vital meaning of that which more and more intrigues man – his consciousness, and the torments of his consciousness.[3]

Later, Vygotsky often quoted these words. Shedding the light of science on the "torments of consciousness", on its mysterious structure, on the volitional activity of the individual transforming the world, was the task of new psychology. Vygotsky became one of its leaders after the triumph of the October Revolution.

Before the Revolution, he, a student of the Department of Law at Moscow University, was engrossed in problems of literature and art. His interpretation of these problems lay within the tradition of symbolism and impressionist criticism. In that period, the natural-scientific view of man and his inner world was alien to Vygotsky. Hints at the mysteries of this world, he believed, were to be sought for in the symbols of art interpreted by each separate science "at its own peril".

Vygotsky's world-view underwent a radical change when he became deeply involved in the construction of new socialist culture. "The significance of new practical psychology," he wrote, "for the *whole* of science could not be overestimated; a psychologist might compose a hymn to it."[4] Vygotsky did not just compose hymns to practice. Along with other enthusiastic reformers of psychology, he became totally absorbed in the everyday hard work of rebuilding men's consciousness, of shaping the citizen of a new social world on the basis of science.

2. I. P. Pavlov, *Polnoye sobraniye sochinenii (Complete Works, In Russian)*, 2nd ed., vol. 1 (Moscow-Leningrad, 1951), p. 13.

3. Pavlov, *Polnoye sobraniye sochinenii (Complete Works, In Russian)*, p. 39.

4. L. S. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, vol. 1 (Moscow: Pedagogika Publishers, 1982), p. 387.

His first book, which he began writing in the early 1920s, when he worked as a teacher in the small Byelorussian town of Gomel, was entitled *Pedagogical Psychology*. In it, the latest data of psychology and the first outline of his own views were intended to provide the teacher with scientific ideas about the child's behaviour and personality. It was his work as a teacher that led Vygotsky to psychology. He hoped that psychology would enable him to base that work on scientific knowledge and not just on inspiration, intuition, and common sense. He remarked that, after all, navigating a ship was never left to the captain's inspiration or the management of a factory, to the enthusiasm of the engineer. We shall all prefer a trained sailor and an experienced technician. It was precisely practice that demanded a theory "that would bring about a subordination to and mastery over the psyche, and artificial control over behaviour".[5]

5. Vygotsky, p. 389.

Accordingly, Vygotsky's prime goal was now a psychological substantiation of the system of training and education developing in socialist society. That system required a new approach to the pupil's personality, his spiritual potential, and laws of intellectual and moral development. The originality of the path which Vygotsky chose in his research imbued with the whirlwind of life outside the laboratories can only be understood in the context of the great tasks of social practice. Vygotsky the practical worker of socialist culture is inseparable from Vygotsky the thinker and philosopher. The philosophy of Marxism became the ideological guide for the young generation of Soviet students of the psyche and consciousness. Vygotsky declared that the motto of new psychology was "practice and philosophy". That statement was not a mere declaration, it had a personal significance to him. The unending shuttle-like movement of Vygotsky's thought between practice and philosophy determined his highest achievements.

The focus of that movement was the problem of the activity of man as an integral being. At the beginning, the main tool in overcoming idealist versions about the psyche was the theory of conditioned reflexes. Its truly revolutionary role in overcoming the idealist notions in which future leaders of Soviet psychology before the Revolution were brought up cannot be over estimated. Marxism became their world-view frame of reference, while Pavlov's theory was seen as the natural-scientific basis of new psychology. The danger was believed

to lie in the fact that *reflexology*,[6] whose great achievement was an uncompromising determinist explanation of behaviour, excluded consciousness from behaviour, thereby leaving consciousness in the clutches of subjective psychology that was already living out its usefulness.

The key problem lay in psychology retaining the advantages of a natural science (with its principle of causal explanation, objective method, and other postulates whose great effectiveness in the explanation of the behaviour of organisms was proved by reflexology) and acquiring at the same time the character of a historical science (with its principle of socio-cultural determination of psychical phenomena, recognition of the individual's orientation towards the goals and values he chooses, of the specificity of acts and experiences involved in the choices, etc.).

Soviet psychology was born in a situation, when the state of world psychology, then in the grip of an acute crisis, was determined by the confrontation between the older mentalist psychology and behaviourist psychology aggressively attacking the former. The concept of consciousness was linked with the subjective method which was helpless in the face of the demands of social practice and limited the psyche to the sphere of the individual's immediate experiences. The weakness of this concept and of this method compelled researchers to seek for alternatives to the obsolescent conceptions of subjective empiricist psychology. One of the alternatives here was behaviourism, which proclaimed that psychology had to give up consciousness and study behaviour, i.e., the organism's reactions to the environment.

Another alternative was proposed by the adherents of the "two psychologies" approach: a physiological one, searching for the basis of mental phenomena in the organism's functions; and a psychology of the mind, which studies man as a being whose quality of life follows from the incorporeal links with the axiological-semantic framework of culture. It was asserted that psychology chained to the body resorted to the strategy of causal explanation accepted in the natural sciences, whereas the psychology of the mind rejected that strategy for the sake of intuitive insights into the individual's experiences. It described and interpreted them, but rejected their causal explanation. The human psyche thus disintegrated, it was divided between two different worlds described in systems of concepts alien to each other.

6. In the 1920s, two trends in Russian psychological science came under the heading of reflexology: V. M. Bekhterev's theory of "correlative activity", of which the combinatory reflex was believed to be the principal component, and Pavlov's theory of conditioned reflexes. Later, only the former of these trends was referred to as reflexology.

Nascent Soviet psychology faced the task of overcoming the gap between the natural and the cultural. This task determined Vygotsky's creative career. To solve it, he had to transform the ancient conception of the mind in a fundamental way, and to find an alternative to it. The solution suggested by Vygotsky became an alternative not only in relation to that conception but also to all the other trends that set themselves in opposition to it, namely, behaviourism, the culturological "psychology of the mind", and Freudianism.

The key concept of psychology, consciousness, was not rejected by Vygotsky but was filled with a new content. It was not identified with what is revealed to the subject when the latter takes on the role of an observer of the invisible processes, acts and states of the self. It was precisely from this view that all the misfortunes and conflicts of psychology followed, as well as the opposition of consciousness to other realities – the organism's behaviour, the values of culture, and the "subterranean" unconscious processes of mental life. Vygotsky outlined his novel approach to consciousness, after much deliberation, in a report to the *All Russia Congress of Researchers in Behaviour* in 1924. It became clear after his speech that Soviet psychology, then in the process of initial evolution, had a new star of the first magnitude. From Gomel, where he had intensely worked for several years studying psychical regulation of behaviour, Vygotsky moved to Moscow.

Thus began the remarkably fruitful decade of his career in Moscow (1924–1934). He soon be came a magnet for young enthusiastic reformers of psychology which they now regarded as a science treating of man as an integral corporeal-spiritual being acting in an environment. The environment was taken to mean the socially organised world of culture created by the individual who developed, in the process, his latent forces and abilities. This view of the essence of man opened the way to elaborating a new concrete scientific psychological theory. It was opposed, on the one hand, to those trends that assumed that man's behaviour was subject to the same biological laws as the behaviour of other living beings; on the other hand, it confronted those trends which took man's psychical activity beyond the framework of all things terrestrial. Vygotsky referred to his theory as cultural-historical. This term stressed that the factors determining the individual's life activity and the wealth of his psychical world were produced by the historical

development of culture. But the very conception of culture is not unambiguous.

The adherents of the "psychology of the mind" also believed that it would only be possible to raise the study of the mind to a level which would lend the individual the dignity of personality guided by forces different from those that rule animal behaviour only by study ing the values and the semantic structures of culture. But they saw those values as entities alien to all that was corporeal or material. As for Vygotsky and his colleagues, they relied on the solid basis of the historical-materialist philosophy of culture. When the first translations (incidentally, incomplete translations) of Vygotsky's crowning achievement, the book *Thought and Language*, appeared in the West, references to Marxism in that work were seen by some readers as political mimicry, a forced concession to official ideology. The erroneousness of this view was pointed out by the American philosopher Stephen Toulmin:

> ...It should be evident that Vygotsky's ... quotations from the Marxist fathers, and ... respectful references to Marx and Engels ... represent some thing more than hagiography or political lip service. This is something that even Vygotsky's Western admirers have not always understood. For instance, when Evgenia Hanfman and Gertrude Vakar prepared the English translation of *Thought and Language* that appeared in 1962, they saw fit to omit many of Vygotsky's references to the ideas of Marx and Engels. Just as the salon Cartesians of the late seventeenth century read all of Descartes's references to God and the Creation as mere ecclesiastical face-saving, Vygotsky's translators too apparently assumed that his allusions to Marx were mere concessions to the ideological demands of the Party, and so irrelevant to the intellectual contents of the argument.
>
> That was a mistake ... Vygotsky was more than happy to call himself a Marxist. And in any event, leaving all political issues aside, the general frame provided by historical materialist philosophy gave him the basis he needed for developing an integrated account of the relations between developmental psychology and clinical neurology, cultural anthropology and the psychology of art ...[7]

From his very first steps in psychology, Vygotsky concentrated on the task with which the entire young generation of Soviet researchers in behaviour and consciousness grappled – that of transforming this crisis-racked science on the basis of dialectical materialism. It may even be asserted that the originality of his path was determined by the fact

7. Stephen Toulmin, "The Mozart of Psychology," *The New York Review of Books* 25, no. 14 (September 1978): 51–57.

that he mastered that philosophy with a greater depth of perception than other psychologists of his period. It should be borne in mind that the goal of reforming psychology from Marxist positions was put forward even before Vygotsky by such Soviet scholars as P.P. Blonsky, K.N. Kornilov, V.Ya. Struminsky. This goal was discussed at congresses and in the press, before student audiences and at learned councils.

By the time Vygotsky entered the field of psychology, it became a common conviction. Even G.I. Chelpanov, a major Russian psychologist, who had fiercely refuted, before the Revolution, the materialist trend in the numerous editions of his book *The Brain and the Soul*, declared himself to be an adherent of Marxism. The question naturally arises, wherein lay the originality of Vygotsky's approach? Why was it he who succeeded in creating an innovative and unique scientific system as he followed a methodological course that was common to the whole of the first generation of Soviet psychologists? Of course, the main premise here was Vygotsky's immense talent, his personal qualities – his striking erudition, his profound knowledge in diverse areas, including art and science, humanities and natural sciences, philosophy and experimental work. He had a talent for correlating knowledge in these different fields, for finding the inner connections between seemingly remote ideas, and of creatively combining apparently entirely heterogeneous facts.

Without this ability, he would not be able to form an integral conception of man as the most complex object that ever presented itself to the researcher's mind, as a being that is both natural and cultural-historical. Vygotsky was the greatest encyclopaedist in 20th-century psychology. Only Jean Piaget can stand comparison with him. Unlike Vygotsky, though, Piaget did not study any problems in art and literary theory and, although he was a biologist by education, he did not work, as did Vygotsky, in the fields of neurology, the psychology of retarded children, or "defectology" (an interdisciplinary branch, founded by Vygotsky, which studies anomalous children), and psychiatry. It was precisely because the nucleus of Vygotsky's psychological system was interdisciplinary synthesis that it later made a great impact on extremely different sciences, such as philology and aesthetics, neurology and psychiatry, pedagogics and semiotics.

It would be difficult to understand how he managed to embrace

and to correlate within the field of his scientific vision vast amount of information representing extremely different and sometimes remote sectors of the scientific front, if we did not know that he had mastered the skills of rapid reading, and that not a single detail of any significance escaped his eye. These skills were combined with an ability to throw light on the problem latent in any element of scientific knowledge and sometimes invisible even to the author of that bit of knowledge.

Vygotsky's encyclopaedic erudition was combined with a highly critical attitude of the mind. This can explain the fact that Russia's scientific community mostly learnt of Vygotsky's ideas from his separate articles, prefaces to translations of books by Western psychologists – Sigmund Freud, Edward Thorndike, Wolfgang Köhler, Jean Piaget, Karl Bühler and others, with whom he usually joined battle in acute polemics, and from his reports and lectures written down by his disciples.

Only a few of Vygotsky's scholarly works were published during his life-time. The rest remained in his personal archives. His first paper, the treatise "William Shakespeare's *Tragedy of Hamlet, Prince of Denmark*", which he wrote already in his student years (1916) was published only half a century later. The monograph *The Psychology of Art*, completed in 1925, for decades remained in MS form, passing from reader to reader. The first edition appeared only in 1965. There is an even longer gap in time between the writing and the appearance in print of his other works that proved to be turning points: *The Historical Meaning of the Psychological Crisis* (1927), *The Tool and the Sign in a Child's Development* (1930), *The Theory of Emotions* (1933).

We know nothing of the external barriers that forced the author to give up the idea of publishing long developed ideas. The decisive barrier was, we believe, Vygotsky's dissatisfaction with his texts due to incompleteness of the search or their inadequacy in relation to the new hypotheses or solutions which he constantly generated moving in various problem domains and directions. He discarded without pity some ideas and put forward new ones, sometimes sharply changing the direction of his thought. He waged uncompromising polemics not only against other researchers but also against himself. Vygotsky was probably the most restless figure in psychology, and the fruitful effect of that restlessness is still felt now.

He also had a great talent as a past master at communication and at gaining insight into other people's souls. He was invariably a centre towards which gravitated talented young people to whom he generously gave of his wealth of ideas and whom he taught research skills. Vygotsky established the largest school in the history of Russian psychology from which came such prominent scientists as Alexander Luria, Alexei Leontyev, Alexander Zaporozhets, and others. He did not communicate with his closest colleagues and pupils only. Hundreds of students listened to his lectures in various cities of this country – in Leningrad, Kharkov, and Tashkent, to name a few.

But his principal work was done in several scientific establishments of Moscow, including clinics. Every day he studied children for hours on end, extracting information on the development of the psyche, of the laws and mechanisms of this development, from conversations with them and observations of their style of behaviour and thinking. Scientific and practical workers, teachers and students from all over Moscow flocked to his demonstrations and analyses of child behaviour at clinics and lectures. He never denied anyone a consultation. The halls in which he read his lectures were usually full to capacity, and people who did not manage to get in sometimes listened to Vygotsky clustering round open windows. He had the remarkable ability for combining inner concentration on the subject of his ideas and profound attention to the interlocutor's viewpoint. Encounters with Vygotsky produced an unforgettable impression even on those who met him only briefly.

He was tall and slender, with an unhealthy blush on his cheeks, his features sharpened by a grave disease, his large grey-green eyes shining; he would pace the auditorium for hours, the overcoat thrown over his shoulders against the inner chill, his hands behind his back, discussing problems of psychology in the light of possible future development of psychological thought.

Of considerable interest are the reminiscences about Vygotsky of such prominent Western psychologists as Kurt Lewin, Kurt Koffka, or Karl S. Lashley. Thus Lewin, who stopped over in Moscow on his way from China, where he had been on a lecture tour, to Germany, had these memories of Vygotsky:

> Although I had personal contacts with Vygotsky during two weeks only, he left an indelible impression on me. The impression I got was of an

> absolutely extraordinary person full of inner gentleness and at the same time of effective strength, and also of a scholar of an exceptional rank … He was undoubtedly the creator of a large and, I believe, highly productive trend.[8]

8. Kurt Lewin, *Defektologiya* 5 (1984): p. 86.

Another major representative of Gestalt psychology, Kurt Koffka, wrote:

> However little I may have known him, I still got the impression that he was a rare person: wise, original, and above all extraordinarily human. I feel very sorry now that, when I was in Moscow, I had no chance to work with him.[9]

9. Lewin, p. 86.

Karl Lashley, the prominent behaviourist psychologist, re ferred to Vygotsky as "one of the most charming and brilliant men" he had ever met.[10]

10. Lewin, p. 86.

Let us note that all the foreign psychologists who visited Moscow – German and American ones – apply to Vygotsky such epithets as "extraordinarily human", "charming", "full of inner gentleness", etc. But these qualities did not at all mean that Vygotsky was inclined to compromises or concessions in matters of scientific conviction or methodological orientation. Thus, he had, indeed, very friendly relations with Kurt Lewin, but he nevertheless sharply criticised Lewin's interpretation of the connections between affect and intellect after their face-to-face discussions of these problems.

All of Vygotsky's qualities – his encyclopaedic erudition, the acute perceptiveness which enabled him to see the problematic nature of each fragment of knowledge, the ability to integrate these different fragments, and his critical spirit – could be positively realised only in the context of his reliance on certain methodological principles. So what were these principles and requirements of the objective logic of scientific development which he was able to realise successfully – owing, of course, to his outstanding personal qualities?

We have pointed out already that all Soviet psychologists accepted the dialectical materialist theory of consciousness as the philosophical frame of reference. It was this theory that enabled them to interpret consciousness as a special property of the material substratum, the brain, and to realise the social determination of this property. This approach became firmly established in the scientific community. The originality of Vygotsky's position lay in the fact that he was not content with these general propositions. His interests were concentrated on the perspectives opened by the Marxist model of man's life activity

as a specific type of activity mediated by labour implements and by language as the instrument of communication. Vygotsky saw this model as the lodestar which would guide psychology towards a new course on which it would break out of the materialist "biological" captivity with the same resolution with which it broke out of the idealist socio-cultural captivity.

He did not have readymade solutions. Firmly bound up in the Russian cultural tradition enriched by Marxism, he fully realised that a new psychology could not be built somewhere by the roadside, apart from the main line of the development of world science. His own thought moved along that main channel. He closely followed the turbulent and contradictory development of psychological ideas in the first third of this century – an epoch which, owing to the confrontation of different schools, became known as the period of crisis. Vygotsky's studies in that crisis showed him to be the first Soviet philosopher and historian of psychology.

In this field, too, his analysis followed the Marxist channel, only this time the Marxist approach was applied to the treatment of the laws of scientific cognition of reality rather than to explanations of the nature of the psyche. Here Vygotsky obviously had to deal with subjects and facts completely different from those to which a psychologist is accustomed in his studies of the subjects' reactions, their sensations, emotions, etc. Answers had to be found to such questions as what is science, what are its forms and mechanisms of development, and why it was shaken by revolutions and crises. If studies in the psyche are to be regarded as first-order knowledge, analysis of the structure of these studies and the way in which the psychologist's mind works can be referred to as second-order knowledge.

Before Vygotsky, no one in Soviet science showed any interest in this second-order knowledge or, in other words, in the fate, apparatus and potential of psychological thought itself. But the quality of knowledge depends on the quality of the tools with which that knowledge is gained. Tools are mediators between the world and its image in the human brain. No direct perception of this world that would by pass the tools is possible. As for the tools themselves, they are the product of social practice in its historical development. These propositions, fully in accord with the model of life activity referred to

above became the core of Vygotsky's entire scientific work.

The first of these propositions can be referred to as the *mediation postulate*. It was put forward by Hegel, in whose system the process of consciousness mediation was realised in mental entities, the concepts. Marx translated that postulate into the language of real life. Vygotsky introduced the Marxist schema into the concrete science of psychology. The significance of the revolutionary upheaval which this produced in psychology will become clear if we compare his approach with the conceptions whose fate he traced in studying the critical situation in psychology.

All these conceptions were based on the "postulate of immediacy". They all assumed that psychical phenomena are given to the subject as reliably as no other, that he has a most direct and intimate knowledge of them, whereas only indirect judgements can be made about everything else in the world. That was the basic assumption in all the psychological systems that used the subjective method as an instrument of man's observation, with his "inner eye", of that which takes place in his soul. But the opposing conceptions, those that employed the objective method (such as behaviourism), were rooted just as firmly in the postulate of immediacy. They saw behaviour rather than consciousness as the subject-matter of psychology.

But what did they mean by behaviour? The movements of living beings: that is, those movements which are observable – not by the "inner eye", true, but by the outer eye; only here too the movements are seen as directly observable as corporeal reactions to stimuli. Vygotsky firmly adhered to the principle of objective cognition of man's behaviour and consciousness. To him, the objective was a synonym of the scientific. But he rejected the idea that the objective was the immediately given. Psychological knowledge could only be indirect. The psychologist "acts as a detective discovering a crime which he never saw".[11]

Cognition of the human psyche must correspond to its nature. The latter is formed by the two mediators between man and the world instruments of labour and instruments of communication. Accordingly, the task of the scientific description of consciousness is to explain the role of these instruments in the inception and structure of all the truly human psychical functions. In view of the primacy of the social over the individual, these functions must be regarded as derived from

11. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 62.

an objective system of interpersonal relations including labour and language, rather than from the mind or the brain, man's consciousness and his brain are themselves formed in this system. At the same time, psychical functions are not a simple projection of these relations. If they were, psychology would be reduced to sociology; it would be the latter's appendage. Growing out of the depth of the social and socio-cultural relations, psychical functions acquire their own logic of development both on the historical plane (in *philogenesis*) and in the life of a separate individual (in *ontogenesis*). Those were the methodological propositions, worked out by Vygotsky, which became the basis of his innovative psychological studies.

Vygotsky worked hard, on the border of the humanly possible, one might say. His career in psychology was very short. He died before he was 38. Let us imagine that the great psychologists of the 20th century, Pavlov and Freud, were to die at that age. The former would not have produced then the theory of conditioned reflexes, the latter, psychoanalysis. But even that which Vygotsky had the time to achieve has remained a chapter in the chronicle of psychology to which the researcher today turns again and again.

Family and School

This chapter makes use of some of S.F. Dobkin's materials.

Vygotsky's childhood and youth fell on the years when the breakdown of the Russian Empire was nearing. A revolution, caused by deep socio-economic processes, was imminent. The society's spiritual life was in foment. The presentiment of the imminent collapse of the old order was reflected in the consciousness of the intelligentsia in different philosophical trends and in agonising reflections on its own relation to the people deprived of all rights, and of Russia's future fate. The rise of the sense of personal dignity after the abolition of serfdom placed each thinking person in a situation of moral choice. The longing for creative freedom was expressed in the efflorescence of literature and art. Poetry, the theatre, and painting bore the imprint of these shifts in the spirit of the times: it was the "silver age" of the arts in Russia. That was the spiritual atmosphere in which Vygotsky's life began.

He was born on November 5, 1896 in the family of a bank official in the town of Orsha in Byelorussia. The family later moved to another Byelorussian town, Gomel, where Vygotsky lived until his entry in Moscow University in 1913, and also after graduation in 1917. On his return home he worked as a teacher. His father was a socially active citizen; his interests did not all lie in the office. He was a local enlightener, and an excellent public library was founded in Gomel on his initiative; the young Vygotsky avidly devoured books from that library. The future scholar's mother was also an educated person. The Vygotsky large family lived in harmony. Little Lev, whose intellectual gifts were obvious, was not sent to the classical school, but was tutored by a former student who had returned from Siberia where he had been sent for revolutionary activities. Later Vygotsky passed the 6th form examinations and entered a private classical school, for otherwise he

would not be entitled to receive a school-leaving certificate.

At school, he was immediately liked by his schoolmates and teachers. He started a school debating society where problems of literature, history and philosophy were discussed. He distributed subjects of reports among the members of the society, and talked them over with the speakers before the sessions. Reports were then read at sessions of the society after Vygotsky's brief introduction; this was followed by questions, debate and Vygotsky's concluding remarks. Lev invented that procedure himself, showing himself already in his school years to be a past master at organising collective thinking. Later this ability developed in early youth, helped him to become an outstanding educationalist and organiser of collective research.

The questions discussed by the society were mostly of historical nature; Vygotsky focused the debate on the philosophical aspects of the historical process. He discussed with great enthusiasm questions of the motive forces of history, the role of the individual, the nature of historical knowledge – whether it is science or art, etc. It was already in that period that Hegel became his idol in philosophy; under Hegel's impact, he attempted to apply the general schema of thesis-antithesis-synthesis to explanations of the course of historical events.

It was also in those days that he was carried away by Spinoza's *Ethics*; from his school years to the end of his days Vygotsky often turned to Spinoza's philosophy.

Art and poetry occupied just as great a place in young Vygotsky's spiritual development. His greatest love was Pushkin; it was not the bright and lyrical notes in Pushkin's work, though, but the tragic ones, to which Vygotsky was drawn. Unlike his schoolmates, he was deeply moved by Pushkin's *Little* Tragedies ("A Feast During the Plague", "Mozart and Salieri"). What attracted him about these works, and also about Shakespeare's *Hamlet*, to which he later devoted a special treatise, were existential motifs, the sense of the tragedy of man in a critical situation, on the borderline between being and non-being. The individual and his fate was one of the central themes in the future psychologist's reflections. He explored this subject both in artistic images and in philosophical categories.

If we consider the angle from which he perceived poetry and his need for understanding the laws governing history, we can gain

an insight into the sources of those ideas which later guided his creative work. The individual and his path in life, his dependence on the historically develop ing world of culture, were the global problems which were later invariably present in his concrete studies in psychology. From the time of his awakening to spiritual activity Vygotsky firmly adhered to the principle that the life of a separate individual was subject to historical necessity, and that at the same time the individual had a certain self-value, his acts presupposing a certain freedom of choice, a capacity to assume responsibility and to play his role in the social drama independent of his will.

The question of the correlation of personal creativity and the creativity of the people, of the individual and the historically specified, brought him up against the field of psychology. In those times, psychology was taken to mean the study of individual consciousness. In Russia, though, where, as we have pointed out, the problem of the individual and the people assumed great significance for the intelligentsia on the eve of great social upheavals, attempts were made already in the 19th century to explain the dependence of the individual's psyche on the developing forms of culture determining its structure, especially on language as the organ of the people's thought. This dependence was analysed in the book by the great Russian scholar A.A. Potebnya – *Thoughts and Language*, the first book through which Vygotsky became acquainted with psychology, the science in which he was destined to become a major figure. Potebnya's theory moulded a specific view of that science that was different from the one that Vygotsky might develop if he studied it from works that officially represented psychology in those years. Potebnya's ideas about the word as the microcosm of thought, as an instrument of constructing man's inner world, guided Vygotsky's search when he took up psychology professionally. These ideas were reflected both in his first book, *Pedagogical Psychology*, as well as in the last one, *Thought and Language*.

Thus by the age of 17, when Vygotsky finished school, with a gold medal for academic achievement, he already had a mature mind with a wide range of interests in the humanities.

University Years. The Riddle of Hamlet

In 1913, Vygotsky fought his way into the "percentage rate" for the Jews[12] and became a student of Moscow University. It was in that year that the Psychological Institute was opened at the University's Department of History and Philology; it was organised by G.I. Chelpanov, one of the leaders of Russian idealism, and funded by S.I. Shchukin, a well-known patron of the arts and sciences. The institute was organised after the model of the best establishments of this kind in the West. But the experimental laboratories of this institute cultivated the approach to human consciousness that several years later, in the Soviet period, was rejected by Vygotsky in his innovative system.

As he entered Moscow University, though, Vygotsky had no intention whatever of studying psychology. His distinct interest for the humanities could lead him to the Department of History and Philology, which trained teachers for classical schools. This choice, however, would be senseless, since a Jew could not hope to get employment at a state establishment. The parents insisted on a medical career – a profession that guaranteed material well-being. After less than a month at the Medical Department, Vygotsky transferred to the Law Department; graduation from that department held the promise of a barrister's position and of living outside the Jewish pale. He could not then foresee that several years later, when he was already a famous professor of psychology, he would begin to study medicine, becoming a student of one of the medical departments in order to acquire the professional skills and knowledge of a doctor which he would need in

12. In Tsarist Russia, only a definite percentage of the enrollment at educational establishments was allotted to the Jews. At Moscow University, the rate was 3 per cent.

his work at the clinic for nervous and psychical diseases.

In the courtyard of the Imperial University of Moscow, next to the Law Department building in which Vygotsky studied, there stood not only the recently erected building of the Psychological Institute but also that of another institute, the Physiological one. It was founded at the end of the 19th century by Ivan Sechenov, the father of Russian physiology and scientific psychology. In less than ten years, it would be the Sechenov theory on the reflex nature of behaviour that would lead Vygotsky to a new path and determine his scientific career.

The student Vygotsky, then engrossed in jurisprudence, was not even remotely concerned with physiology and the neuromechanisms of the psyche, that is, with the subjects with which his mind would later be invariably preoccupied. The study of law polished his mind in the area of the human rather than natural sciences. He was also inclined towards art, the theatre, and literature. He applied strict logic combined with the fine dialectics of jurisprudence not so much to the real cases as to those described in fiction.

A friend of his youth recalls that when the student Vygotsky came to Gomel for a holiday, he organised a "literary trial" of Vsevolod Garshin's hero, who committed murder out of jealousy. He spoke at the "trial" both for the prosecution and for the defence, arguing for both sides. The author of that memoir thus comment ed on this episode:

> He [Vygotsky] worked out this approach to analysis of events as a student of law. His entire method of thinking rejected one-sidedness, prejudice, and confidence in the correctness of particular conception. His whole scientific career is marked by the remarkable ability to grasp not only the things with which he could identify himself but also the viewpoint of another.

Was he familiar with Marxism in his youth? Those close to Vygotsky recall that, as a student, he was interested in political economy and read brilliant papers on the subject at seminars at Moscow University (A.N. Leontyev), and that he described the content of these reports in his letters to his parents (S.F. Dobkin). In studying political economy, he could not, of course, be unaware of the economic theories of Marx expounded in legal publications. There is no evidence, however, of the influence on Vygotsky of dialectical-materialist philosophy with its innovative interpretation of the individual, his incorporation in the world of culture and art.

On the contrary, in his studies of literature in those days Vygotsky, as we shall presently see, considered that incorporation in terms of ideas incompatible with materialism. It should be borne in mind, however, that the materialist conception of the human mind as interpreted in those times as mere reduction of mind to the movement of atoms and molecules, or to nervous processes. The work of a whole generation of Soviet researchers after the Revolution was needed to penetrate into the deeper layers of the Marxist theory of consciousness, the theory which contained a new explanation of the psychical structure of personality. In the early 1920s, Vygotsky courageously accepted the role of one of the militant leaders of that generation.

As he entered the university, he could not foresee what fate had in store for him. He was then bound up in philosophy. He had a thorough knowledge, a professional's knowledge, of its classics. It is quite possible that he owed, at least in part, the high philosophical level of his thinking to his studies in history and philosophy at the Shanyavsky University.

Two years before Vygotsky moved to Moscow, the Imperial University where progressive professors had set the atmosphere of freedom at the beginning of the century, had been subjected to reprisals on orders from the czarist Education Minister. The best professors and scholars, the pride of Russian science, left the University. Some of them went to work at the private or people's university set up and funded by A.L. Shanyavsky, a liberal public figure. The university was open to persons of both sexes, regardless of their nationality, religion or political views. That university did not depend on the official authorities, and it was granted complete autonomy in handling all academic matters. Many major democratically minded scientists were attracted by the chance to lecture without official censorship. They included several Social Democrats. Some of the lecture courses reflected liberal attitudes and offered a critical appraisal of Russian history.

Vygotsky studied at both universities – the imperial and the people's. His primary interests lay not in science but in art, or rather in philosophical analysis of art, in art criticism, which became for him a means of realising his spiritual concerns. According to A.N. Leontyev, his first essays in literary criticism, of which the MSS have been lost, were

analysis of Leo Tolstoy's *Anna Karenina* and of the work of Fyodor Dostoyevsky. The student Vygotsky published in various magazines several literary reviews of books by the pillars of Russian Symbolism: Andrei Bely, Vyacheslav Ivanov, and Dmitry Merezhkovsky. He also wrote reviews of plays. He became immersed in the intense and contradiction-racked intellectual life of Russian society between the two revolutions of 1905 and 1917 – a period of increasing signs of great upheavals signalling the downfall of the czarist Empire.

The social circles to which Vygotsky was close at the time was remote from revolutionary practice. The awareness of the disintegration of the old order gave rise to certain beliefs in these circles which reflected the Russian intellectuals' confusion in the face of threatening events that brought new historical forces onto the historical arena.

Religious and mystical trends became widely current among these intellectuals. The feeling of the individual's alienation from the world, from society as a hostile force, the feeling of the absurdity and hopelessness of human existence, became the principal motif in the work of some Russian poets, literary critics, and philosophers. It was precisely in these prerevolutionary years, long before the spreading of existentialism in the West, that such philosophers became widely known throughout Russia as Lev Shestov[13] with his doctrine of the doom and tragedy of the individual under the pressure of soulless truths and obligatory moral norms; or Nikolai Berdyayev, who believed that the path on which the intelligentsia could find a way out of the spiritual crisis was indicated by religion, whose doctrines included the idea of a freely creative subject.

13. As he read up on Shakespeare and Dostoyevsky, Vygotsky also became interested in the works of Lev Shestov, and read everything that he had published by that time.

Profound subjectivism permeated the works of literary critics like Yu.I. Aikhenvald, A.G. Gornfeld, and others, who influenced young Vygotsky. Following these authors, Vygotsky attached the greatest importance in art to the personality element which appeared in the form of an immediate perception. The artistic image was interpreted as a symbol. Vygotsky chose an aphorism from Oscar Wilde for his first long literary-critical treatise on Hamlet: "Those who read the symbol do so at their peril." Following Vyacheslav Ivanov, he said that the symbol had many faces, that it was ineffable and "always dark in the last depth".[14] He accepted the view of the critic Gornfeld that "each new reader of Hamlet is, as it were, its new author".[15]

14. L. S. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)* (Moscow, 1965), p. 349.

15. Vygotsky, p. 345.

The correct idea that a work of art is only understood when it is felt through and through in one's own soul was here taken to the point of subjectivism. All but the elusive "dark senses", the source of the subject's "inexplicable delights", vanished from artistic works.

In art, the fashion was then set by symbolism, whose adepts preached the unknowability of the "terrible world" that sent messages of itself in the symbols recorded by the artist. The thick fog of mysticism filled the atmosphere inhabited by the elitist intelligentsia of the two capitals, St. Petersburg and Moscow. Everything was confused, all philosophical values were dis placed, all the pluses being changed to minuses and vice versa. What had been believed to be irreal now came to be regarded as the highest and only reality; the former faith in the omnipotence of reason gave way to doubts about its ability to grasp the meaning of events. "The day passed, as usual, in quiet madness," wrote Blok. The entire Russian and world culture of the past was perceived in the light of this mood. Schopenhauer and Nietzsche became the idols of the intelligentsia. Dostoyevsky was seen as a mystic with a hallucinatory vision of the mysterious depths of the human soul. Shakespeare was also regarded in the same light. "Russian thought had spurned all around that name for two centuries, and at the time referred to here the controversy was particularly acute."[16]

The range of the debate was wide and variegated. In the view of some, Shakespeare portrayed great heroes whose feats shone as the first rays of the Renaissance powerfully breaking through the gloom of the Middle Ages; for others, Shakespeare was, in the words of Leo Tolstoy, "crude, immoral, shining on the strong, despising the weak, and slandering the people". For the third group he was, as Blok put it, a "harsh and sad artist". Still others believed him to be the greatest mystic of all times and peoples. An historian bears witness that "at no other time in the history of Russia had Shakespeare risen so high, nor had he been attacked so violently, as in the years preceding the revolutionary explosion of 1917"?[17] At the centre of the controversy stood *Hamlet*. Referring to its place in Russian art, the Moscow critic Nikolai Efros, who became Vygotsky's close friend during his university years, wrote:

> Since Mochalov played the mournful Prince of Denmark whose gentle soul was filled with the painful awareness of the time being out of joint, that part became one of the most sacred values of the Russian stage. Created by an alien British genius, Hamlet be came, as it were, a confession of the Russian soul.[18]

Hamlet became the focus of Vygotsky's spiritual quest already in his

16. *Shekspir i russkaya kultura (Shakespeare and Russian Culture, In Russian).* (Moscow–Leningrad: Nauka, 1965), p. 783.

17. *Shekspir i russkaya kultura (Shakespeare and Russian Culture, In Russian).*, p. 738.

18. N. Efros, *Aleksandr Ivanovich Yuzhin* (Moscow, 1922), p. 78.

years at the classical school, the years when an individual's self-consciousness is awakened, and his reflections on his purpose, on life and death become especially acute. Vygotsky had a notebook which he never showed to anyone, as if it were his intimate diary. In it, he recorded the thoughts which constant reading of *Hamlet* engendered in him. The tragedy of Shakespeare became for him a means of gaining an insight into his inner self. It may be that Vygotsky himself saw the world through Hamlet's eyes. He felt the need to write an essay on *Hamlet*, to express his perception of the tragedy in the form of a director's script. He played out, as it were, the whole of Shakespeare's text on the inner stage of his consciousness. The essay on *Hamlet, Prince of Denmark* was, as Vygotsky himself wrote, "at first conceived as a description of the acting of an invented, fictitious artist or artists (a fantasy, vision or better dream of *Hamlet* on the stage, for the process of perception of a work of art can be compared to a dream)".[19] What Vygotsky tried to recreate in his dreamlike "fantasies" – a language into which Shakespeare was translated – echoed the interpretation of Hamlet that was actually realised at the Moscow Art Theatre in the famous production of the tragedy in 1912. That production was a major event in Russia's cultural life.

19. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, pp. 357–58.

The production, directed by the English master Gordon Craig jointly with Konstantin Stanislavsky, reflected the confusion that gripped at the time a certain part of the Russian intelligentsia, the feeling of instability of being, of time being "out of joint" on the threshold of world cataclysms.[20] The role of Hamlet was performed by V. I. Kachalov. His was a mystical Hamlet, a "half-dream, half-reality, a quaint play of the mind and of the imagination." There is no doubt that that image made a deep impression on Vygotsky, a fervent admirer of the Art Theatre, and that it also affected his treatise on Shakespeare's drama. He sketched out the first version of the treatise in 1915, and the second, in February 1916.

20. The view of Hamlet widespread in those times stands out clearly in this statement by one of the contemporary critics: "The elusive transition to the supernatural, the real and the unknowable in rapid succession – that is what Hamlet is. We see him as a ghost then." (See *Shekspir i russkaya kultura*, p. 778). Thus not only Hamlet's father was a ghost but Hamlet himself, too.

The year of 1916 marked the 300th anniversary of the death of the great playwright, but Russia, fighting a war and devastated, had little time for anniversaries. Certain weak voices were heard to say that the genius of the English play wright (England was an ally of Russia in the war) was a reproach to humanity in turmoil, that his works could help to fight the madness of wars, but Vygotsky was stranger to these

social motifs. Following his teacher Aikhenvald, he proceeded from the idea that a work of art had to be seen as a "reaction to eternity",[21] in complete abstraction from all that was external with regard to the work itself. He did not realise that that view, with its claim to immediacy of perception, to freedom from any philosophical, historical, scientific or any other bias, expressed quite a definite ideological position resulting from the concrete socio-historical circumstances – not from the eternity but from the state of the environment in which he lived, from the presentiment about "unheard-of changes and rebellions" (Blok). Just one year was left to go before the 1917 revolutions.

21. See L.S. Vygotsky, *Psikhologiya iskusstva*, p. 347. Yu.I. Aikhenvald rejected the view of a work of art as a product of social conditions, believing it to be a reflection of the poet's soul. On this approach, the artist's portrait had to be reconstructed entirely within the framework of the texts he produced.

Vygotsky believed that *Hamlet* could be under stood irrespective of its author, the epoch in which it was written, and the eleven thousand volumes of commentaries on it of which Leo Tolstoy spoke in horror. Vygotsky's hope of reconstructing the impression produced by Shakespeare's characters in a "pure culture" was illusory. His own judgements on the tragedy depended on the boundless sea of commentaries in which he was immersed. Some he liked, others he rejected. In other words, he had to make choices all the time. He copied the statements and opinions of other commentators in notebooks which at one time were his diary. Earlier, these were notes intended for his eyes only, and now they became a summary of commentaries on the treatise about *Hamlet* which he was preparing to submit to the readers' judgement. As a result, the treatise fell into two intrinsically unconnected parts: his own study, of which the task was to describe the experience of perceiving *Hamlet*, and the second part, the footnotes comprising commentaries on the study extracted from the literature. They bore evidence of the author's immense erudition, but at the same time, regardless of the author's intention, they also spoke of something else, of a selective attitude to sources inevitable in any reading.

As to Vygotsky's choice of the commentaries, it was unambiguous: he emphasised everything that reinforced the preconceived idea of the mystical and symbolic character of the tragedy. That was the version accepted by many Russian critics copiously quoted in the foot notes. That was also the version followed by Craig in his Art Theatre production of *Hamlet*, in which Shakespeare's hero was presented as a ghost, a symbol, rather than as an artistic image of an individual acting

in a concrete earthly situation. "Not only the ghost of Hamlet's father but also all the characters in the tragedy appeared to Craig as fleeting embodiments of forces holding sway over life."[22]

22. *Shekspir i russkaya kultura (Shakespeare and Russian Culture, In Russian).*, p. 778.

In fact, the ideas of Vygotsky's treatise be came footnotes to the views of *Hamlet* evolved in the Symbolist circles, instead of these views being footnotes to his own treatise, as the author would have liked. Still, Vygotsky claimed to have added a voice of his own to the chorus of voices singing of *Hamlet* down the ages.

"The present brief study," he stated at the very beginning, "is an essay in the interpretation of the tragedy as a myth, the first essay of this kind in Shakespearean criticism. In classical tragedy or the Bible the plot is not invented, it is not an approximate, possible, secondary or simply moving characteristic of the dramatis personae. It is a myth, a mystic reality."[23] The entire previous criticism of Shakespeare proceeded from an analysis of the plot, the characters and their situations, the language, the dialogues and so on. That was why, Vygotsky believed, that criticism, having entangled itself in contradictions, had been unable to read the riddle of *Hamlet*. Some saw the Prince of Denmark as a passionate individual, others, as a contemplative thinker; some believed him to suffer from lack of will power, others, to be endowed with a strong and noble will, and so on. In actual fact, Vygotsky asserted, Hamlet did not have any character at all, and it was none other than the harshest Russian critic of Shakespeare, Leo Tolstoy, who had opened our eyes to this fact. Tolstoy's criticism, Vygotsky stressed, had a decisive significance for the understanding of the *Hamlet* conundrum Shakespeare left to the later ages to resolve.

23. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, p. 352.

In 1906, after hesitating for a very long time, Tolstoy published in *Russkoye slovo* an article whose ideas he had developed over a period of fifty years. The article was called "On Shakespeare and on the Drama". In it, Tolstoy described Shakespeare as an immoral writer who was only regarded as a genius on the strength of mass hypnosis. Among other things, Tolstoy imputed to him a helplessness in the characterisation of his protagonists. "It is the accepted view that Shakespeare's characters are the height of perfection … But, try as I would to find confirmation of this, I always found the reverse in Shakespeare's dramas." Shakespeare's characters do not belong to him "but are borrowed from earlier dramas, chronicles and novellas. And, far from being

strengthened by him, they are mostly weakened or ruined."[24]

Vygotsky fully accepts that. There are no strong, weak, or any other kind of characters in Shakespeare. But one must not even look for such characters here. There is no logic, in the sense of comprehensible unambiguous coherence of events, in Hamlet's reflections and actions. The hero is continuously engaged in two dialogues, for his consciousness is split. His soul is an inhabitant of two worlds – this one and the next. He is born to establish a link between them, to see the mystical foundations of life behind the illusory happenings on the earthly stage. Each of his words conceals an abyss whose forces hold sway over the protagonists as if they were puppets. That is why Vygotsky ascribes the decisive role in the tragedy to the Shadow – the father's ghost who reveals to Hamlet the mystery of his father's death and orders him to avenge it. Vygotsky objects to any attempts to present the Shadow as a fiction, a personification of Hamlet's inner duty, a phantom of a disordered imagination, and so on. He interprets the Shadow as a special reality whose supernatural quality permeates the whole tragedy.[25]

In the ordinary human acceptation, a shadow is a reflected projection of a three-dimensional entity in two-dimensional space. In Hamlet, according to Vygotsky, the Shadow is also a projection, but of quite a different nature. It is a reflection in real three-dimensional space of the tragedy of the "four-dimensional" other world.[26] It is the "other-worldly root of the tragedy", "the connecting link between the two worlds", a medium "through which the other world affects this one", and that not only at its appearance but throughout the whole tragedy. The Shadow throws a shadow on everything. After hearing and seeing the Shadow, Hamlet no longer accepts this world. Hence the "horrow of the solitude of a soul that lost its way between the worlds",[27] the alienation from the other men. Here lies, according to Vygotsky, the solution of Hamlet's main riddle – an explanation of the reasons why the hero procrastinates. Hamlet believes that he moves freely, but he is bound up in his, actions by the threads "leading from *out there*".[28] The state of his soul is "*readiness*, not *resolution*."[29] Hamlet can only be understood as "the most mystic tragedy, where the thread from another world is woven into what happens here, where time forms a gap in eternity … The meaning of the tragedy is in its

24. L. N. Tolstoy, *Polnoye sobraniye sochinenii (Complete Works, In Russian)*, vol. 35 (Moscow, 1950), pp. 239,240.

25. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, p. 374.

26. Vygotsky, p. 381.

27. Vygotsky, p. 392.

28. Vygotsky, p. 440.

29. Vygotsky, p. 459.

philosophy or, better say, in its religiosity, not in the sense of a definite confession but in the sense of a certain perception of the world and life."[30]

The tragedy unfolds, according to Vygotsky, on two planes. One is the plot, the chronicle, the narrative of events, the action. These are, in the formula of Hamlet, "words, words, words". They denote only that which happens on the external or visible surface. Behind it, however, lies, the second or true meaning indicated by Hamlet's other formula – "The rest is silence", a formula that only permits "a religious attitude to itself, and which goes beyond an artistic perception of the tragedy".[31] Following this conception of the tragedy, Vygotsky argues against the generally accepted view, going back to Aristotle, of the effect it produces as catharsis – the purging of passions through fear and compassion, the enlightenment of the mind.

"As we read the tragedy," Vygotsky writes, "we must speak of a darkened rather than enlightened impression: the tragedy infects the spectator or the reader with its hopeless sorrow, and therein lies its meaning, the meaning of perceiving the tragic."[32] In this pessimistic conclusion he followed Schopenhauer, his doctrine of man's original sin, of man's guilt lying in the very act of his birth. "What we see reproduced on the stage," concluded Vygotsky, "is our guilt, the guilt of birth, the guilt of existence, and so we become involved in the sorrow of the tragedy."[33] The original cause of the hero's tragic state is revealed behind the whirlwind of passions raging in Hamlet. Whatever we might call this original cause of the state, "fate or the hero's character, we shall come all the same to the source of that state: to the infinite eternal alienation of the self, to the fact that each of us is infinitely lone."[34]

Later this world perception became the core of the philosophy of existentialism with its concept of the "borderline situation", of which the most complete form is the situation in the face of non-being.

As we have mentioned already, Vygotsky's student work consisted of two parts, the study of *Hamlet* and footnotes to it. But the author also intended to add yet another part. He wrote in the post-script to his treatise that the foot notes contained the purely literary theme, while the second part expressed the personal inner reaction to *Hamlet*, to be followed by the religious theme. "All three, if they are ever realised,

30. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, pp. 493-494.

31. Vygotsky, pp. 495.

32. Vygotsky, pp. 495.

33. Vygotsky, pp. 495.

34. Vygotsky, pp. 493.

will constitute a trilogy devoted to the religious-artistic problem of Hamlet."[35] That plan was never carried out, although Vygotsky continued to work on the Hamlet MS for some time.[36]

When Vygotsky fell gravely ill in 1920, he sent the MS to Yu. Aikhenvald, asking his help in the publication. He hoped that the study in which he said his first – and, as he believed be cause of the critical state of his health, his last word on art – would not be buried in his private papers. Vygotsky survived the illness. Great changes were then taking place in Russian society, and these determined some basic shifts in Vygotsky's world-view and in his understanding of the nature of art. Not a trace would be left of his former vision of Hamlet. He was not sorry at all now that the MS reflecting his view of the great tragedy which he formed in his youth did not get into print.

Returning to *Hamlet* several years later, he moved his analysis of the tragedy onto a different ideological and theoretical plane. As for the MS from the days of his youth, it was published, after all, as a supplement to his *Psychology of Art*; it is interesting as a historical document reflecting Vygotsky's mode of thinking in his university years. Comparison of this essay with Vygotsky's new interpretation of *Hamlet* is striking proof of the dependence of the creative process on the socio-historical context. This dependence is most acutely felt when history makes particularly sharp turns.

35. Vygotsky, pp. 361.

36. In particular, a passage from a work dated 1918 was included in it.

Teacher in Gomel

In 1917, Vygotsky graduated from the Law Department of Moscow University. In that year, the, greatest revolution in history broke out in Russia. The czarist Empire collapsed. Ideologues of many parties came out from the underground or returned from exile or emigration; each of these parties endeavoured to win the minds and to seize power. The young lawyer tried to orient himself in this political kaleidoscope. Leaving Moscow, he returned to Gomel. Those were troubled times. The town was threatened by the White Poles. At the beginning of 1918, a German offensive began. On seizing the Ukraine, the Germans incorporated Gomel in its territory.

Along with the troubled state of the country came family troubles. Vygotsky's twelve-year-old brother fell ill with tuberculosis. The doctors recommended treatment in the Crimea. Vygotsky did not want to let his mother and brother go there alone, and left with them. But getting to the health-resort was a very hazardous under taking, with the Civil War raging everywhere. They stayed for several months in Kiev, where Vygotsky selflessly looked after his sick brother. The situation in the capital of the Ukraine in those days was graphically described in Ilya Ehrenburg's memoirs, *People. Years. Life.* He wrote there not only of regimes succeeding one another, of the pillage, the refugees, and so on; he also reconstructed the cultural atmosphere, the mood of the people, their occupations and interests characteristic not only of Kiev where Vygotsky became stranded but also of the general style of the life of the intelligentsia in those days.

Many people were then doing jobs for which they had not been trained. The poetess Marietta Shaginyan taught citizens sheep-breeding

and weaving. On graduating from the Law Department, the poet Selvinsky became an agent in fur trade. Ehrenburg himself was appointed head of a sector for aesthetic education of "morally defective" children[37], although he did not know anything about education. "We spent a long time," he writes, "working out a project for a 'model colony', where juvenile delinquents would be brought up in the spirit of 'creative labour' and 'all-round development'. It was an era of projects. Grey-haired cranks and young enthusiasts seemed to be in every office of Kiev, working on projects for a Paradise on earth."[38]

37. The term "morally defective" denoted juvenile delinquents and difficult children.

38. I. Ehrenburg, *Sobraniye sochinenii (Collected Works In Russian)*, vol. 8 (Moscow, 1966), p. 291.

Quite possibly, Vygotsky was one of the young enthusiasts. Ehrenburg does not mention him, but they did meet at the time, as their correspondence shows.

By the time the Vygotskys returned to Gomel, the Germans had left, and the Soviet power had been restored. Vygotsky became a most active figure in local education, a teacher and organiser of school work. He began his career as a teacher of literature in the first "labour school" which was opened after the end of the occupation. His active temperament also urged him to seek for other ways of participating in the building of a new culture for the whole people. Together with his cousin D.I. Vygodsky and friend S.F. Dobkin, he started a publishing enterprise. They planned to publish both classics and the best of contemporary literature, and their establishment was therefore called Centuries and Days.

The mark of the printing business was made by the local artist N. R. Ostapets; it was a picture of the Sphynx with a butterfly sitting on it. The young people had great expectations. Having no money to pay the fees, they appealed to famous authors (including the poet Valery Bryusov) asking them to send in their works, and got a positive response. Vygotsky also wrote to Ilya Ehrenburg, who sent the publishers his poems, which were printed at once. But the Centuries and Days publishers very soon went out of business because of paper shortage.

Vygotsky vigorously continued his enlightenment activity. He taught literature, the his tory of the arts, psychology, and read lectures before various audiences. The archives of the Gomel museum of local lore have preserved memoirs about discussions of literary novelties Vygotsky held every Monday before large audiences. The discussions

did not deal with literature only. The audiences remembered, in particular, Vygotsky's lecture on Einstein's theory of relativity. He held the office of head of the theatre section, printed reviews of plays, and founded the literary paper *Veresk* (Heather). He became the central figure in Gomel's cultural life.

Vygotsky spent the best part of his energies on psychology, mostly pedagogical psychology, which he taught at various educational establishments. He organised a psychological laboratory for the examination of schoolchildren and pupils of children's homes. His social activity was linked with the radical changes that were taking place in his world-view, changes that reflected the needs of the new historical situation. In official documents preserved in the archives Vygotsky was described as a "permanent lecturer on questions of materialist psychology" and modern Marxist pedagogics. The references to psychology and pedagogics as the main areas of his work, and to materialism and Marxism as his philosophical orientation, provide an insight into fundamental changes in the content of his spiritual life. Vygotsky's view of the essence and functions of art – the subject of his intense thinking since his youth – underwent a basic change in these years in Gomel, compared to his youthful enthusiasm for the impressionist approach to the perception of the artistic text.

Several circumstances forced Vygotsky to revise his former subjectivist view. First of all, as he worked towards the establishment of the new school and new culture, he began to see the teacher's role from the positions of someone who created the conditions for changing the child's psyche. He saw literature not as a source of pleasure but as a tool in the remoulding of man with the aid of the emotionally charged and imageful word. Very few facts and documents characterising this aspect of Vygotsky's activity in Gomel have been preserved. We know that he taught literature not only to school children of various age groups. His audiences also included students of "workers' faculties" – recent fighters in the Civil War who only yesterday laid down their arms and took up the text books.

In August 1922, he spoke at a provincial scientific conference "On Methods of Teaching Literature at Secondary Schools". He directly correlated the problem of method with the specificity of child consciousness in organising the learning process. In particular, his

later observations of the way in which a child perceives a fable, or of the meaning of children's drawings, were undoubtedly rooted in his teaching experiences in Gomel. On the question of fables he stressed that children's evaluations of fables showed that the educationalists' ideas about the moral effect of fables on children were entirely false. Thus, when children learnt the famous fable about the grasshopper and the ant, the careless and poetic grasshopper who chirped all summer long got all the children's sympathy, while the gloomy and boring ant seemed to them to be disgusting; the whole fable was, in their view, an attack on the ant's dim-witted and complacent stinginess.[39] At least two conclusions followed from that observation: first, it was important to know the properties of the child psyche as a "refracting medium"; and second, it was wrong to assume that the aesthetic impact was the same as the moral one.

39. L. S. Vygotsky, *Pedagogicheskaya psikhologiya (Pedagogical Psychology, In Russian)* (Moscow, 1926), p. 247.

On the subject of children's drawings Vygotsky pointed out that the psychical mechanism underlying children's artistic efforts must not be ignored, that the drawings expressed "the child's inner temperament", and the teacher's corrections of the drawings signified a crude interference in the child's psyche that could become an obstacle in its development.[40] He also pointed out that the reason for the slow development of the child's ability for conveying expressive movements in the postures and gestures was the fundamental fact that the child draws schemata rather than events. These results were undoubtedly based on Vygotsky's own observations of pupils' responses in his literature classes. He may also have used the materials of the psychological laboratory which he set up at the Gomel Teacher Training School. His personal archives have also preserved a MS from the Gomel period – "On the Study of the Processes of Understanding Language Through a Series of Translations of a Text from One Language into Another".

40. Vygotsky, p. 211.

Thought is impossible without the word, but it is not identical to the latter. This is proved by man's ability to express one and the same thought in different languages. Invariant content is retained in the thought of an individual passing from one language to another. Vygotsky used the non-identity of thought and word, the possibility of taking them apart, offered by differences between languages, for empirical studies in consciousness.

He made plans for his first psychological experiment. We do not know if any attempt was made to carry them out. What we have now is just eight pages of a MS outlining the method to be used in that experiment. What is important here, though, is the very direction which Vygotsky's quest took.

The concrete theme of his research – no longer philological but psychological – was the correlation of the facts of consciousness and the facts of language independent from the former. *The relation of the invisible act of thought to the word as a phenomenon of culture accessible to objective analysis became the core of Vygotsky's entire work.*

What he strove to do was to unfold the inner mental plan of the individual's life into tangible forms open to experimental analysis.

The Gomel period in his life gave rise to yet another fundamentally important direction of his scientific quest. At that time, Vygotsky was very friendly with his cousin, David Isaakovich Vygodsky. As we have mentioned, they jointly organised the printing establishment Centuries and Days, which went bankrupt so quickly; after that they both became school teachers of literature. The cousin was a very talented linguist and poet, and Vygotsky constantly discussed problems of art, language and literature with him.

It was not only the remarkable erudition of the cousin (who was several years older than Vygotsky) that made a great impact on him. David Vygodsky had studied at the University of Petrograd, not Moscow University, and he had joined there a group of young linguists who put forward a programme for reforming literary theory with the aim of studying "the play of language forms". In his contacts with this linguist who had close ties with the OPOYAZ (Society for the Study of Poetic Language), Vygotsky became acquainted with the conception of "art as device" from the horse's mouth, so to speak. This acquaintanceship of the Gomel period was to play an important role in Vygotsky's elaboration of his own conception. New knowledge was gained through polemics, through a clash of the minds.

Vygotsky rejected the view of form as an independent principle indifferent to the content of a poetic text. But the interest for the modes of constructing a poetic text stimulated by his critique of the "formal school" took deep root in his mind, giving rise to the main ideas of his *Psychology of Art* written a year after his departure

from Gomel. Rejecting his earlier conception of the artistic image as a symbol interpreted by each subject at his peril, Vygotsky put forward in this work the idea of a distinct "psychology of form", of "disembodiment of material, by form". This shifted the focus to the mode, independent of the psychology of the individual, of constructing the artistic text and its design – though these terms were used here in a sense different from the formal school's.

But the principal reason for the change in the young Gomel teacher's way of thinking was his studies in psychology. Calling on psychology for tools for personality restructuring, social practice challenged the anaemic conceptions of consciousness which were mostly cultivated in Russia in the pre-revolutionary years at the Psychological Institute attached to Moscow University. As for world science, these conceptions had been exploded in it by the new, young forces attacking the old positions from various sides under names unknown to old psychology: Freudianism, behaviourism, gestaltism.

In Russia itself, the moss-grown notions of the psyche were swept away by a trend which proved experimentally its capacity to really change behaviour, to lend behaviour new forms by relying on objectively verified knowledge of its causes, determinants and mechanisms. It was a trend which went back to Sechenov's explanation of the reflex nature of life acts. Its leaders believed the object of their research to be activity, not consciousness. V. M. Bekhterev called this activity correlative, and Ivan Pavlov, the higher nervous activity. Their theories played a great liberating role. Psychological thought broke out of the fetters of the subjective method and of the idea that psychology was doomed to be bound forever to phenomena within the purview of that method (of the subject's inner eye).

Real corporeal action linking the organism to the environment became here the subject-matter of psychology[41] on a par with the subtle phenomena of the inner world of consciousness. But reflexology regarded that world as lying on the other side of the organism's behaviour. A paradox thus arose. Reflexology proved to be at odds with the monistic explanation of the life of the integral organ ism, in the assertion of which it took such pride. Consciousness, the psyche, was exempted from life.

In the revolutionary epoch, the demands of practical life (those of

41. The conditioned reflex, originally interpreted by Ivan Pavlov as an interdisciplinary concept denoting "an elementary psychical phenomenon which could be by right regarded at the same time as a purely physiological phenomenon" I. P. Pavlov, *Polnoye sobraniye sochinenii (Complete Works, In Russian)*, 2nd ed., vol. 3, 2 (Moscow-Leningrad, 1951), p. 322, was included by all the leading Soviet psychologists of the 1920s (P.P. Blonsky, K.N. Kornilov, M.Ya. Basov, L.S. Vygotsky) in their psychological systems. In 1926 and 1927, Vygotsky believed the theory of conditioned reflexes to be a branch of psychology (along with developmental psychology, pathopsychology, etc.). Despite Pavlov's resolutely negative attitude to zoopsychology, he included conditioned reflex precisely in that branch – in one of the three types of psychological systems (see Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 296). On the eve of the 10th anniversary of the Soviet power, Vygotsky was asked to write an overview of the achievements of Soviet science in that period. In that article, Vygotsky resolutely stated the following: "The main and decisive factor in the development of natural-scientific *psychology* (italics mine – M.Ya.) in this country was, we believe, the theory of conditioned reflexes created by academician Pavlov". L. S. Vygotsky, "Obshehestvennye nauki v SSSR in 1917-1927 (Social Sciences in the USSR in 1917- 1927)," chap. Psikhologicheskaya nauka v SSSR (Psychological Science in the USSR) (Moscow, 1928), pp. 25-46

remodelling consciousness) and of constructing a psychology, equal to the requirements of an integral dialectico-materialist world-view, guided Soviet scholars in the search for an integral theoretical schema capable of combining the obvious advantages of the natural-scientific explanation of man with the principle of socially conditioned conscious active ness of his behaviour. This search, which was most intense in the scientific centres of the capitals, also carried away Vygotsky who then worked in the province. In the new social and ideological atmosphere, his thought burnt up his former convictions and aspired towards the Marxist philosophy of man as a being consciously changing the earthly world through practical action.

For Vygotsky, Marxism meant not only a new global solution of world problems but also the revolutionary practice inevitably following from it. "We face," wrote Vygotsky, "concrete tasks of educating the men of the coming epoch, the men of the coming generation, in complete accordance with the historical role that will fall to their lot."[42] Marxism was a theory of direct action in concrete living space. For Vygotsky, that space was the labour school in which be worked at the full stretch of his abilities during the five years in Gomel. It was precisely this work, inspired by the idea of making his own direct contribution to the upbringing of men capable of rebuilding the world on the principles of the good, of justice and beauty, that transformed Vygotsky the literary critic into Vygotsky the psychologist, guided by the firm conviction that only exact science could create, by discovering the causes and laws ruling behaviour, the man of the new social world.

42. Vygotsky, *Pedagogich-eskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 45.

From Reflexology To Psychology

The October Revolution completely destroyed the old state school which was the school of drill, of suppressing the pupil's personality. As a reaction against this, there were calls in the first years after the Revolution to eliminate education completely, as a form of coercion. "Many saw the task of education," Vygotsky later recalled, "as the task of destruction of the school. The school of the Revolution is the best educator; we must make our children street children; we must destroy the school in the name of life – those were the slogans of those times."[43]

Vygotsky believed that the school's task was to prepare the younger generation for life, and he rejected the call for "educating through street influences", since there was "so much dirt and mud in our streets" that it would be just as great a folly to surrender oneself to the mercy of that element as "to throw oneself into the ocean, wishing to get to America, and give oneself up to the free play of the waves".[44] The teacher's task was to control the educational process by relying on the laws of child behaviour rather than thrusting on the child a programme indifferent to those laws. "Man makes nature serve him according to its own laws. The situation in social education is the same."[45]

The nature of the child is studied by psychology. It was to psychology that Vygotsky now turned. His knowledge of that field was scant, although he had read a number of psychological works long before that time, including books by Potebnya, Freud, and James. All of them represented the idealist trend. True, it was idealism of a kind that was different from that which flourished at Russia's main centre for the study of consciousness, the Moscow Psychological Institute, where

43. Vygotsky, *Pedagogicheskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 60.

44. Vygotsky, p. 60.

45. Vygotsky, p. 61.

experiments were conducted according to the programme accepted in Western laboratories. In the framework of that programme, the subject had to analyse his consciousness, reducing it to the last elements with the aid of various devices and observation of what took place in consciousness. These elements were believed to include sensations, elementary emotions, memory images, etc.

Although Vygotsky's understanding of psychical processes in his university years was idealistic, it differed significantly from the idealism of contemporary experimental psychology, as it was not sensations, representations or elementary emotions that Vygotsky regarded as the basis of psychical life but emotional experiences that were "kindled" in the deep layers of personality under the impact of art. At its inception, experimental psychology strove for the ideal of causal explanation accepted in the sciences of nature. The search for the "atoms" of consciousness and for the laws of their connection – that was its plan. But it ran into opposition already at the end of the last century.

The German philosopher Wilhelm Dilthey called for the establishment, along with the psychology linked with physiology and concerned with explanation of the physical and corporeal causes of its phenomena, of a different psychology with its own subject-matter and method. Nature, according to Dilthey, was to be explained, and the soul, to be understood. Understanding was taken to mean intuitive insights into the individual's immediate experiences as they were given in spiritual culture.

Vygotsky's concentration in his student years on the problem of emotional experience as an integral phenomenon of life produced by the symbols of art was evidence of a certain consonance of his views with those ideas which Dilthey set in opposition to the scientific, objective analysis of the psyche. But these notions of the perception of the artistic image could not be an instrument in the education of the new man through the medium of art. A different theory of the individual and of his psychical activity was needed – a materialist one.[46]

In that situation, the notion of psychology as a science of the soul and of its phenomena was entirely discredited. It gave way to the confidence that the truly scientific knowledge of the psyche was attained through the objective method permitting the establishment

46. At the same time Vygotsky's previous orientation towards an integral understanding of the individual and of his specific reactions to cultural symbols (the "reader's impressions") played a certain role in his subsequent studies of scientific psychology. Regardless of the way this view was expressed in Vygotsky's further work in this field, his latent youthful conviction lived on in him that man's integral psychical structure depended on "irritants" created by culture, the principal of these irritants being the poetic word. It is wrong to assert, however, that his "idea of the semiotic or symbolic nature of the higher psychical functions and consciousness was very closely connected with the theory and practice of Russian Symbolism" (V.P. Zinchenko, V.V. Davydov, Preface to J. Wertsch, *Vygotsky. Social Formation of Mind*, Cambridge, Massachusetts, London, 1985, p, vii). This view ignores the consistently materialist nature of Vygotsky's theory of the higher psychical functions, in which the concept of the word or sign was treated on the analogy of the Marxist explanation of the role of labour instruments in the construction of human activity, and not at all in the style of Russian Symbolism.

of strict rules to which an organism's encounters with the material environment during its life time were subject. That was precisely the belief of reflexologists. After the Revolution, their achievements changed the way of thinking of progressive representatives of the "academic" psychological school who had long been dissatisfied with its programme of sterile analysis of consciousness.[47] Insisting on the development of psychology from Marxist positions, they rejected the faith in introspection as its only method. They abandoned their quiet laboratories for the whirlwind of the events, becoming active builders of socialist culture.

47. The first among these were Chelpanov's former colleagues K. N. Kornilov and P. P. Blonsky.

We have mentioned already that Vygotsky had been brought up on a version of the idealist conception of consciousness different from these professional psychologists. But he, too, traversed a similar path. Working far from the scientific centres of Petrograd and Moscow, where the search for new approaches to psychology was in full swing, he also came to regard psychology as the science of conscious regulation of behaviour studied by the objective method.

The early 1920s were marked by the triumph of reflexological ideas. In 1923, Ivan Pavlov's book *Twenty Years of Experience in Studying the Higher Nervous Activity (Behaviour) of Animals* appeared. It was perceived as the ultimate triumph of natural-scientific thought over outdated idealist psychology. In the same year, the attention of the broad public was also drawn to the work of another Petrograd physiologist, Alexei Ukhtomsky, on the dominant, which strengthened the natural-scientific view of behaviour regulation. Vladimir Bekhterev was becoming increasingly, and rapidly, popular, organising a great many institutions in which considerable progress along reflexological lines was made. That was the atmosphere in which the belief that the objective method and the strictly causal explanation of behaviour was the only way towards reading the mysteries of the psyche became the leading idea of Vygotsky's whole work.

Relying on the theory of conditioned reflexes, he wrote his first book on psychology, whose content reflected the level of his thinking on the problems of that science in the Gomel period. The book was called *Pedagogical Psychology*. It appeared in 1926, when Vygotsky already left Gomel, but its text had been prepared earlier, at the time when he worked there. Evidence of this is found in the following fact. As he entered the People's Commissariat of Public Education in July 1924, he filled in a form in which, under the heading of "Publications",

he wrote: "A brief outline of pedagogical psychology. At the State Publishers' at present." Vygotsky wrote in the preface to that book,

> The theory of conditioned reflexes, is the basis on which new psychology must be built. The conditioned reflex is the name of the mechanism which carries us from biology to sociology, and enables us to establish the very nature and essence of the education process.[48]

But Vygotsky hastened to add that the theory of conditioned reflexes was a foundation to which the organism's complex integral reactions could not be reduced. He described these reactions as constructed on the reflex principle: they were produced by stimuli which, transformed in the brain, became muscle work. It would appear that the stimulus-response formula became for him the basis of causal explanation of the psychical regulation of behaviour. However, he translated that formula into his own language, and the main interest of the work lay in that translation. There were shoots of new ideas which permitted to begin movement in a new direction while remaining true to the reflex principle.

48. Vygotsky, *Pedagogicheskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 72.

According to Vygotsky, behaviour was affected by integration factors, as indicated by two theories: Charles Sherrington's theory of the integrative function of the nervous system and Ukhtomsky's theory of the dominant. These theories endeavoured to prove that modes of reflex organisation, or reflex structures, should be studied rather than disjoint reflexes. Sherrington proceeded from the fact that the number of fibres receiving signals, or receptors, in the nervous system was several times greater than the number of motor or "executive" fibres. Receptors are the broad end of the "funnel" narrowing towards the motor end. A struggle therefore goes on between different groups of receptors over the overall motor field.

Vygotsky compared the nervous system with a narrow door in the theatre towards which a thousand-strong crowd rushes in panic. Those who pass through the door are the few who have saved themselves while most have died, with the struggle for the "door" (the overall motor field) "lending human behaviour the tragic and dialectical character of a struggle between the world and man, and between various elements within man".[49] In this struggle, complex relations between different centres of the nervous system take shape. One of the centres may temporarily become the focus of the greatest excitation. This centre, dominating the others, was termed "dominant" by Alexei

49. Vygotsky, p. 45.

Ukhtomsky. The dominant disposes the organism as a whole towards a definite type of work inhibiting other reflexes of which the centres pass on their charge, as it were, to the dominant, which is thus reinforced by their energy. The dominant makes behaviour integral and unitary. Thus relying on the discoveries of psysiologists, and synthesising the concepts of conditioned reflex, of the struggle for the motor field (the "funnel") and the dominant, Vygotsky presented a picture of the organisation of behaviour as an integral corporeal process.

But integrality was not the only point here. It is inherent in animal behaviour, too. As far as man was concerned, Vygotsky proposed that additional new terms be introduced into the Pavlov formula, which included only two terms (conditioned and unconditioned reflexes) signifying the enrichment of inherited experience by personal one. The integral quality of human behaviour could only be understood in terms of these additional terms, Vygotsky stressed. These include three more types of experience: historical (the experiences of previous generations), social (the experiences of other people), and what he called "doubled experience".

The concept of "doubled experience" was of fundamental significance for all of Vygotsky's subsequent attempts to overcome the dualism of behaviour and consciousness: behaviour as an organism's corporeal reaction, and the subject's consciousness as a mental incorporeal act. Vygotsky arrived at that concept under the influence of his studies in Marx, who illustrated the qualitative difference between instinct and consciousness by comparing the behaviour of a bee building honeycombs with the creativity of an architect in whose head the result of his labour is present already before its beginning, before he begins to act practically. "What we have here," Vygotsky wrote, "is nothing else but a kind of doubling our experience. Man builds twice, as it were: first in his head and then in fact."[50]

50. Vygotsky, p. 173.

In other words, Vygotsky explained that most important feature of human behaviour, its dependence on the anticipated result, as the result of "transplanting" into the head of actions which were previously carried out in direct practical communication between organism and environment. This "transplantation" was possible, according to Marx, only in the organism of man involved in the process of labour. "Labour," wrote Vygotsky, "repeats in the movements of the hands,

and in the changes in material, that which was previously done in the worker's imagination to the models of these movements, as it were, and to this material." To explain this "transplantation" in terms of psychophysiology, Vygotsky used the concept of central inhibition discovered by Ivan Sechenov. There is a mechanism in the brain which delays reflexes. As a result, a reflex triggered off by an external stimulus is interrupted in the central part and does not culminate in a muscular response. It was this circumstance which explained, according to Sechenov, the absence of external motor expression of thought; this produced the illusion not only of its invisibility but also of its incorporeality, immateriality, inaccessibility to objective study.

Following Sechenov, Vygotsky defined thought as "the first two thirds of the psychical reflex".[51] Sechenov's interpretation of thought gave rise to one of the key concepts of psychology, which explains the origin of internal invisible experience in terms of external experience accessible to direct observation. This concept became part and parcel of the psychological lexicon, where it is referred to "interiorisation", or the transformation of external relations be tween man and the world into internal ones. At the same time, the conception of thought as "two thirds of reflex" (distinct from sense impression, which causes an open-ended muscular reaction, i.e., the complete reflex) was entirely insufficient to explain the nature of thought.

51. Vygotsky, *Pedagogich-eskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 39.

It was not enough to point out the components which the human organism lost in the transition from external sense impressions to the internal activity of the mind. It was also necessary to answer a further question: what was acquired by the curtailing or inhibition of external motor activity? Vygotsky's answer was:

> Owing to the interruption and suppression of the reflex, i.e., owing to the transformation of a complete reaction into thought, our reaction acquires greater flexibility, subtlety and complexity in its interrelations with the elements of the world, and our action may be realised in infinitely higher and subtler forms. . . . Thought acts as a preliminary organiser of our behaviour.[52]

52. Vygotsky, p. 172.

We see that Vygotsky placed the main emphasis in the organisation of human behaviour on the complex psychical work between stimulus and reaction rather than on stimulus and reaction as such. He presented the "inner space" separating them in terms that were entirely different from Pavlov's. In the theory of higher nervous activity this space was pictured as the dynamics of nervous processes or, as Pavlov liked to put

it, as "balance between excitation and inhibition". Vygotsky described that space in the psychological, not physiological, language. True, it was psychology of quite a special kind. Its terms denoted muscular movements rather than the subject's inner experiences, while the principal significance was attached to speech movements.

Thought was perceived as inseparable from the reactions of speech organs. However, Vygotsky introduced new elements into the interpretation of these reactions, elements which lent the concepts of stimulus and reaction a meaning completely unfamiliar to the reflexologist. Vygotsky's interpretation of thought as inhibited reflex had its origin in Sechenov, while his interpretation of the word was borrowed from the Russian scholar Alexander Potebnya.

According to Potebnya, the word as a concentration of the people's thought included three components: sound, inner form (image, or representation) and meaning. Vygotsky made a step of fundamental importance for the whole of his subsequent work when he introduced the word into the general reflex schema, substituting it for both the irritant and the reaction. Proceeding from Potebnya's ideas, which he knew very well, Vygotsky thus wrote of the word as a stimulus: "Psychologists-linguists distinguish three elements in the word: sound, meaning and image",[53] where image did not mean the traditional psychological concept of sensation, perception, or representation as an element of individual consciousness but some thing quite different – "a graphic, and comprehensible to all, motivation" of the sense of the word. This was what young Potebnya referred to as the etymon, or the inner form of the word.

53. Vygotsky, p. 177.

In his explanation of the nature of the verbal image Vygotsky literally followed the noted linguist. "Gradually, with the growth and development of the language," he wrote, "the image dies … younger words have the image, older words have half-forgotten it but can readily reveal it to closer observation. Very old words reveal their image only after careful historical excavations of the original senses and forms of the word."[54] Thus people once used the Russian word *chemila* (ink) to refer only to a black liquid used for writing (cf. *cherny* "black"), but later began to speak of red, blue and other types of ink used for the same purpose without any sensation of violating the idea. The image of the word *chernila* has disappeared, what has remained is meaning and

54. Vygotsky, p. 177.

sound.

The origin of the word can only be identified by sound kinship. Its original inner form was sensory, or sensually perceptible. However, the sensory image has acquired a fundamentally different hypostasis in the structure of language. It became a special kind of image (the word's inner form) which directs the thought not of a separate individual but of all speakers of a given language, being for all of them just as comprehensible and compulsory as the sound and meaning of the word with which it is linked. The image is no longer individual but social. That is why it only acts as a response-provoking stimulus on those who have a command of the language whose creator is the people. In this way Vygotsky introduced a special kind of determinant into reflex theory. Individual behaviour regulated by the word was introduced into a new causal sequence. It was made dependent on social structures of language common to the whole people.

Here lay the watershed between the direction of Vygotsky's thought, on the one hand, and reflexology and empirical psychology, on the other. In both these fields the conviction prevailed that the subject (organism in reflexology, consciousness in empirical psychology) is directly affected by the action of external stimuli. In the context of Vygotsky's theoretical quest the connection between the organism (or consciousness) and the external impacts on it sharply increases in complexity, acquiring a fundamentally new character. It becomes mediated rather than direct and immediate. The mediator here is an element of the people's cultural life, namely, the word.

Vygotsky's studies in philology at the university had shaped his view of the word as a concretion of cultural senses. The reflexological orientation of Vygotsky's views developed during the Gomel period demanded that the word be included in the field of all the other irritants. But his previous, culturological, orientation took him beyond that field into the history of the people and of its spiritual values. At the same time Vygotsky's handling of speech as a factor of psychical regulation of individual behaviour went beyond the search for the mystery of consciousness at a point where the world of nature and the world of culture intersect.

Weaving the individual's brief life into the great age-long history of social being, language signs, or speech irritants are at the same time

inalienable components of each moment of that life. They are its determinants both on the macro-scale of the life of the people down the ages and on the micro-scale of the individual's routine contacts with his brethren. Philology, which considers language product (text) – whether uttered or written down makes no difference here – as a special kind of "thing", is indifferent to these contacts inherent in living communication. The direct involvement of the word in the flow of human activity could only come to light at the second or microlevel. It was this approach that enabled Vygotsky to place the word in the same series as other actions, to see it as a special kind of reflex.

Any reflex consists of three parts: perception of an external stimulus, its transformation in the centres, and finally the muscular response. We have already discussed the difference of the speech stimulus from all the others – physical, chemical, and so on. Vygotsky interpreted this stimulus in a Potebnian sense – as a unity of sound, meaning and image. No one before Vygotsky had ever included such a highly structured tripartite product among irritants.

The concept of irritant came into being in the framework of determinism, in the version that was prompted by classical mechanics. In Vygotsky's theory, this concept became a kind of cognitive hybrid. It was a point of intersection of the natural-scientific tradition (language signs belong to the same order of phenomena as any other material agents[55]) and the culturological tradition (the intellectual realities embodied in these phenomena, the meaning of the word and its inner image, are just as inseparable from these phenomena as the soul is inseparable from the body).

55. In semiotics, the "material agents" are commonly referred to as *sign vehicles* (Ch. Morris), not signs. In the Saussurean tradition, the material element is believed to lie entirely outside the sign. – *Ed.*

The concluding phase of the tripartite reflex, the muscular reaction, also assumed a hybrid character in Vygotsky's interpretation. It should be remembered that the reflex was interpreted as an arc in its initial classical conception. This meant that the entire reflex act, being caused by an external stimulus, is completed by a response reaction of the working organ, the muscle. Its role in the subsequent organisation of behaviour was disregarded. That was the situation as long as the mechanistic style of thought prevailed.

In the 19th century, though, it was thrust aside by a new mode of explaining life phenomena. Physiologists now saw the muscle as an organ that not only did work of a mechanical type but was also

endowed with the ability to inform the brain about the results of that work. This view emerged already in the first half of the 19th century in the studies of the neurologist Charles Bell, who referred to a "nervous circle" involving brain and muscle. Bell's experiments and observations showed that the brain does not only direct the activity of muscles: in their turn, muscles send signals to the brain reporting on the manner in which its orders are carried out. The muscle proved to be not only a motor but also an informational apparatus. This was clearly revealed in cases in which a muscle lost its in formation function while retaining the motor or energetic one.

Among others, Bell observed a wet-nurse who suffered from a disorder of the information function. That woman could only feed a child while she looked at it. The moment she looked away, the child fell from her hands. Her brain did not receive from the arm muscles any signals as to the position in which her arms were. This could only be compensated for by watching the work of the arms with her eyes. These and other facts, which indicated the existence of a special muscle sense, compelled the view of the reflex as a circle rather than an arc. This marked the inception of the idea of circular control over motion or, in modern terminology, of feedback.

Half a century later, this conception became part of Sechenov's theory of reflexes. As he read Sechenov, Vygotsky could not miss the description of the behaviour of patients whom Sechenov observed in the clinic of his friend S.P. Botkin, the famous Russian physician. These patients, the ataxics, suffered from a disorder of coordination of movements. Although their muscles were in good order as working organs, they could barely walk because of damage to their muscular sense, as no signals came to the brain about motions carried out. The shift in physiological thought in the transition from reflex arc to reflex circle embodied in a new conception of the principle of determinism. Earlier, that principle denoted a rigid unidirectional cause-and-effect (stimulus-and-reaction) nexus. It now included the idea of the system's flexible self-regulation, the idea that the effects produced by the system determine its subsequent work.

This type of explanation was unacceptable to classical determinism, whose source was observation of mechanical body movements. But a new determinism, a new explanation of the causes of the organism's

actions, was taking shape in biology. That shift in the explanation of behaviour was expressed, in particular, in the idea of "circular reaction". Vygotsky absorbed the new mode of analysis of life phenomena but, not content with what was known, made an important step forward. He extended the idea of circular reaction to human behaviour mediated by the word, thereby again moving beyond biology. We have seen that he also moved beyond the biological framework as far as the word as a stimulus was concerned – the word as a material agent which triggers off an action. Let us now touch on those aspects of the movement of Vygotsky's thought that were brought about by his view of the word not only as a stimulus but also as a reaction.

Reaction means the work of the motor apparatus in response to a stimulus, i.e., the third term of an integral reflex. In the transition from arc to circle, that apparatus had to be interpreted not only as an effector (an organ producing an effect or result) but also as a receptor, as a "transducer" of information sent back from muscles to nervous centres. It was only possible if muscles were similar to other sense organs, if they had not only motor tissues but also receptor or sensory ones. The presence of the receptor tissue in the muscle, lending the latter a sensory ability, had long been discovered. Sechenov referred to this ability as the "dark muscular sense", Sherrington, as proprioceptive sensibility (the Latin word *proprioceptor* means "feeling itself").

Vygotsky moved in a new direction. Both Sherrington and Sechenov remained in the sphere of biology. Referring to the circular muscular reaction, neither had in mind anything but the behaviour of an individual organism. The situation changed in the transition to the speech reflex. It was impossible to restrict oneself to a single individual here. The assumption was inevitable that the individual's speech reaction is addressed to another individual similar to himself.

This system's quality was revealed in the form of the "organism – another organism" relation rather than the "organism – object environment" relation, as in the previous studies in this problem. We have pointed out the "hybrid" character which, in Vygotsky's view, the word as an irritant (representing the initial phase of the full tripartite reflex act) has. The fact is that it belongs both to the "family" of irritants and to the sphere of culture. The word as a reaction (the concluding phase of the complete tripartite reflex act) also proved a

hybrid. On the one hand, it was just as real muscle work as any other kind of muscle work, and on the other, it transferred that work into the sphere of communication. Leaving the reflex nature of behaviour intact (with all the advantages that might accrue from its connection with the principle of determinism), these innovations of Vygotsky placed human behaviour under two determinants unknown to any of the previous reflex theories: (a) culture and (b) communication. Culture was brought in here by the word as irritant and communication, by the word as reaction.

Vygotsky used the term "circular reaction" for the word,[56] but that was no longer a circle connecting brain and muscle. The circle acquires the meaning of a dialogue occurring in a micro-community, for "language serves as a means of coordinating the social experience of individuals".[57] Just as all the other reflex reactions, beginning with the simplest pupil contraction against light and ending with Pavlov's conditioned reflexes, the circular speech reaction unfolds objectively, independently of consciousness. An explanation of body mechanism needs the soul, the psyche, and consciousness just as little as does the movement of the hands of a clock or the work of a pump. However, at the very inception of the reflex schema it already contained a dualist view of man's actions, which were divided into involuntary (reflex or machine like) and voluntary (conscience-controlled). The reflex-consciousness duality weighed on the theories of both physiology and psychology.

56. Vygotsky, *Pedagogicheskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 179.

57. Vygotsky, p. 178.

Consciousness was interpreted as the subject's immediate experience, as activeness flowing from the subject, as a world of incorporeal phenomena illumined by the light coming from the subject. Both that world and that light were believed to have a basis in themselves and not in something external. The reflex-consciousness dualism was a philosophically sophisticated version of the ancient dualism of body and soul adapted to the culture of the modern times. Going further back in time, it was a version of animism or faith in a "double" inhabiting each thing. It therefore comes as a surprise when we read in Vygotsky: "the primitive notion of the psyche as a double living in man is a notion that is closest to our conception."[58] And this after presenting the latest data on conditioned reflexes, brain functions and so on!

58. Vygotsky, p. 178.

Closer consideration shows, however, that Vygotsky's animism is

imaginary, that the image of the "double" emerged in an attempt to over come the dualism hanging over all the theories which place the individual's inner world outside the body working according to the laws of reflex. Vygotsky's attempts were guided by the conception of the word as a circular reaction forming a dyadic system, namely, the process of communication of two individuals. This dyad is, according to Vygotsky, a crucible in which the individual's consciousness is smelted. "Our personality," he wrote, "is organised on the same model as social communication."[59] It is in this sense that the psyche is a "double" living in man. The individual constructs the idea of his own person in the likeness of another individual, receiving his speech reflexes, and thus "settling" the other in his own organism.

59. Vygotsky, p. 178.

Various programmes of constructing psychology as a science of the subject's immediate experience assumed that we cognise others only insofar as we cognise ourselves. Another individual's psyche is translated into my own language in which the meaning of words (like "joy", "anger", etc.) is only comprehensible to myself. Had I not experienced that which is denoted by these words, I would know as little about it all as a person born blind about colours. That was the belief of both Chelpanov and Pavlov, while Vygotsky insisted on the primacy of external behaviour, communication through speech reflexes, over consciousness.

When this behaviour is split into external and internal, interiorisation of speech reflexes proves possible. Unlike the surrounding bodies, these processes are inaccessible to external observation, as they occur within the organism in an inaudible and invisible form. Since they are linked to thought, the illusion arises that thought is incorporeal, enclosed in the depth of consciousness, in the self, in the soul as the hidden inner agent which explains all and does not itself need a scientific, causal explanation.

Thus the Gomel period in Vygotsky's career was spent in an intense search for a new psychological theory. The social practice, for the benefit of which that search was undertaken, worked a basic change in his spiritual development – a transition from the "psychology of the mind" to the "psychology of the body", from involvement with the question of the individual's state on the borderline between the earthly and the unearthly to Pavlov's theory of conditioned

reflexes. Adopting that theory as the basis of a scientific explanation of behaviour, Vygotsky was shrewd enough to see its inconsistency inevitably leading to the ancient dualism – the fact that reflexology took the psyche as a powerful regulator of this behaviour beyond the frame work of the human organism's relations with the outside world transformed by object-related action through the medium of speech.

Linking up behaviour and the psyche within an integral theory of man – that was the principal direction of Vygotsky's thought as it rook shape during the Gomel period. He believed that reflexologists, too, moved towards that goal. Then work approached a turning point with the introduction of new methods which included such a truly human irritant as the word among studies in motor reactions. What Vygotsky had in mind were the experiments of V.P. Protopopov, a major representative of the Bekhterev school. In these experiments, the reactions of the subject's hand were caused by a speech signal rather than light, sound or some other physical agent. Vygotsky called Protopopov's article describing these experiments historical.[60]

60. Vygotsky, *Pedagogich-eskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 46.

Protopopov divided conditioned reflexes into two kinds, primary and secondary. A primary reaction (such as jerking back the hand) is produced by a conditioned irritant (light), which is reinforced by running electrical current through the plate on which the hand lies. A secondary reaction is caused by the word which is used instead of that irritant. The same applies to signal differentiation. It is usually developed gradually by reinforcing only one irritant in a series. But if it is explained to the subject that an electric shock will only follow one definite signal, the differentiation is produced at once. This expansion of reflexological methods leads, according to Vygotsky, to their ultimately merging with "methods of research long established in experimental psychology", inasmuch as here, too, the subject acts in accordance with an instruction, that is, the experimenter's verbal orders.

That was why reflexology and psychology, united by such an irritant as the word, had to merge into one science, according to Vygotsky's original plan. "This merging, the elaboration of a single method of studying human behaviour and consequently the formation of a unitary scientific discipline treating this behaviour, may be said to be taking place right before our eyes."[61] Vygotsky made this conclusion the basis

61. Vygotsky, p. 44.

of his programmatic report which he pre pared for the *Second All Russia Congress of Researchers in Behaviour*. The Congress was held in Petrograd (soon renamed Leningrad) on January 3–10, 1924. Apart from this report, presented under the title "Methods of Reflexological Research Applied to the Study of the Psyche", Vygotsky brought two more communications from Gomel: "How Are We to Teach Psychology Now?", and summary of the results of a poll about the attitudes of school-leavers in 1923. Not a trace of these communications has survived; as to the report, Vygotsky rewrote it as an article which was published in the collection *Problems of Modern Psychology*.

Both the report and the personality of its author made a great impression on Alexander Luria, who came for the congress from Moscow. A close associate of Kornilov, who succeeded Chelpanov as Director of the Institute of Psychology, Luria persistently advised Kornilov to invite the "enlightener from Gomel" to work at the Institute which was then in the process of renovation.

In his report, Vygotsky did not touch on Marxism as yet, but his acute criticism of empirical, subjective psychology, on the one hand, and of reflexology, on the other, impressed the new psychological party which was searching for objective methods of studying consciousness. Disappointment about psychology as a theory of the subjective world was universal. There was nothing original about Vygotsky's rejection of it. The original element was his charge of dualism levelled against reflexologists who claimed to have been the first to study the integral organism objectively. "In effect," wrote Vygotsky, "dualism is the real name … of the view point of Pavlov and Bekhterev."[62] Placing the psyche outside human behaviour, the theory of conditioned reflexes inevitably found itself a captive of dualism.

62. Vygotsky, p. 57.

"One is compelled to be more of a reflexologist than Pavlov himself," Vygotsky said. "Well, if one wants to be consistent, one sometimes has to object to half-way policies and be more of a royalist than the king himself."[63] The trenchant criticism of Ivan Pavlov, the king of the science of behaviour, by a young and completely unknown provincial teacher reflected the need for Soviet psychology to defend a position of its own against the background of the great advances of reflexology. Let us recall that that was the time of attacks on the theory of conditioned reflexes "from the right", from the

63. Vygotsky, p. 58.

camp of idealists who mocked at the plans for studying the human soul through "organising kennels", as Chelpanov wrote in one of a series of pamphlets he published at his own expense, all attacking new psychology.

As for Vygotsky, he criticised Pavlov "from the left". Pavlov himself made common cause with Chelpanov. The subjective world remained forever an area closed to objective methods, in the view of the creator of the theory of conditioned reflexes. It might be that he adhered to this view in opposition to his fervent followers who reduced everything in man to the mechanism that was discovered in experiments with dogs. In the struggle around reflexology, Vygotsky took up an independent position. In the name of the scientific monistic explanation of man's nature, he insisted that the whole of man's behaviour without any residue whatever is subject to the principle embodied in the reflex concepting.

This idea, however, concealed at least three points that were alien both to psychologists and to reflexologists. First, the speech reflex, as we have seen, linked biology to the development of culture and to a system of social connections (communication). Second, that reflex was considered not only in its open forms but also in the inner ones hidden from external observation. *Why should we, asked Vygotsky, restrict our selves to manifest reflexes, those that are accessible to the eye, rejecting reflexes of which one third is suppressed? In particular, why should we reject "verbal thinking – the most frequent case of a delayed speech reflex?"*[64]

Inhibited reflexes exist just as objectively as complete ones, Vygotsky insisted. What grounds are there, then, to eliminate them from science, to regard them as inaccessible to causal analysis?

In insisting on the study of latent (interiorised) reflexes, Vygotsky (and this is the third fundamentally important point of his differences with reflexologists) rejected the idea that the objective is only that which is directly perceptible to the sense organs. There are whole sciences, he reminded his readers, which cannot study their subject-matter by means of direct observation. "The historian and the geologist restore facts that no longer exist by indirect methods, and still they *study, in the final analysis, facts that existed*, and not the traces and documents that have survived. The psychologist, too, sometimes finds himself in the position of the historian and the geologist."[65]

64. Vygotsky, *Pedagogich-eskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 47, emphasis added Damitr.

65. Vygotsky, p. 62.

The most important among the documents at the psychologist's disposal is the subject's testimony as to his experiences (the data of self observation). However, they are only interesting to the researcher as traces of the actual events of the individual's life. Traces are signs of the reality, not the reality itself. Objective cognition of the psyche is therefore indirect.

The views expressed in Vygotsky's first speech at an All-Russia scientific forum, which summed up the results of five years of intense work in the Gomel period, guided the whole of his subsequent work. It was in that period that the categorial matrix of the hypotheses, theories and discoveries that later brought him fame was built. Culture, communication, the organism's life, were all integrated into a whole interpreted as a real equivalent of phenomena relegated by empirical subjective psychology to the inner "space" of the individual's consciousness as a unique property inalienable from it. The category of cultural sign (revealed in the image of a word) and the category of communication, along with the category of action realised along reflex lines (but not identical with it), were laid from the very beginning as the foundation of his psychological system.

We can thus say that even before Vygotsky made his appearance before the young scientists of the capitals, where the originality of his ideas and his whole spiritual image immediately attracted general attention, he was a mature researcher in the fundamental problems of psychology.[66] He could not have become that if he had not focused, during his years of teaching in Gomel, on the needs and tendencies of development of psychological thought under the new historical conditions. This, in its turn, was only made possible by his deep analysis of these needs and tendencies from the literary sources, since Vygotsky was not in direct communication with the people who determined the situation in psychological science in those days.

There is a well-known dictum: "intellect matures in silence". Vygotsky's intellect, though, matured in vigorous activity. He took an active part in various aspects of the construction of a new, socialist culture. Keeping time with that activity, Vygotsky thought out, with remarkable vigour and fruitfulness, the fundamental principles of scientific knowledge of the psychical organisation of human behaviour.

It is in the Gomel period of Vygotsky's career that lie the roots

66. It is therefore not true that Vygotsky "began systematic work in psychology only in 1924" (see preface to L. S. Vygotsky's book *Razvitiye vysshikh psikhicheskikh funktsii* (The Development of the Higher Psychical Functions, Moscow, 1960, p. 9) Although this statement was made by Alexei Leontyev and Alexander Luria, Vygotsky's close associates, they may be ignoring the Gomel period of his career because they recalled their first impressions of Vygotsky from the year 1924, when they first met Vygotsky who then began to work at the Moscow Psychological Institute.

of those ideas out of which soon grew the works of his first years in Moscow. What was conceived and matured in Gomel, saw light, developed and transformed, in Moscow.

The Abnormal Child In The World Of Culture

In those years, researchers of the Moscow Psychological Institute strenuously debated the relationship between the subjective and the objective methods, between introspection and extraspection; they measured the strength and intensity of motor reactions and discussed new books that streamed in from the West – books by Hugo Münsterberg, Sigmund Freud, Alfred Adler, William Stem, and others.

Outside the Institute, a great social world was being built, scaffoldings rising everywhere. Vygotsky was one of the first psychologists to meet its problems head-on. Some of these problems had been brought about by the consequences of the Civil War, which had inflicted great sufferings on children. A state system for the education of pedagogically neglected and abnormal children had to be built. A sector for the social and legal protection of minors (SLPM) was organised at the People's Commissariat for Public Education – Children's homes were set up throughout the country. The struggle against child homelessness gathered momentum. Social pedagogics emerged, its task being the working out of methods for the education of this very special group of children.

According to Alexander Luria, even when he worked in Gomel, "Vygotsky came up against problems of teaching children suffering from innate defects like blindness, deafness, mental backwardness, who had to be helped, and their individual potential revealed".[67] Moreover, Luria expresses the view that it was precisely Vygotsky's involvement

67. A. R. Luria, *Etapy proidennogo puti (The Stages of the Traversed Path, In Russian)* (Moscow, 1982), p. 26. The book appeared in the USA under the title *The Making of Mind*.

with this category of children that compelled him to take an interest in "the works of academic psychologists".[68]

Was that really so? Did Vygotsky indeed turn to "academic psychology" after his contacts with abnormal children? This view is, of course, expressed by a psychologist who had closer ties with Vygotsky than anyone else, but no documents have been preserved in the archives to confirm Luria's version.[69]

In Gomel, Vygotsky taught, among other educational establishments, at a children's home. It is quite possible that there he encountered children suffering from various defects. How ever, he began studying these children closely only when he moved to Moscow on the initiative of I.I. Danyushevsky, a prominent figure in education and Vygotsky's acquaintance from the Gomel times, who was then concerned with the problem of homeless and abnormal children along the lines of SLPM.

In July 1924, Vygotsky began working at the People's Commissariat for Public Education. The questionnaire which he had to fill in on joining that establishment contained this question: "In what branch do you believe your employment would be most useful?", to which Vygotsky answered: "In the education of blind and deaf-and-dumb children."[70] From the sum mer of 1924 to the end of his days Vygotsky devoted a great part of his energies to defectology.

During those years, he saw hundreds upon hundreds of blind and deaf-and-dumb children, cripples, and mentally retarded children. During the Moscow period of his career, they were the subjects of his empirical studies in the psyche, in its experimental analysis and in the study of educational effects. It was in this applied field, which required everyday consultations and deci sions about the fate of concrete individuals, and not in general psychology where his intellectual quest lay, that he became not only a researcher but also a brilliant organiser of science, or rather the founder of a new interdisciplinary science that became known as defectology.

Both in pre-revolutionary Russia and in other countries the needs of practice compelled scientists to work out methods of teaching children suffering from various physical and mental defects. But no integral discipline existed, before Vygotsky, that would cover the entire range of the manifestation of these defects, cementing its concepts and methods by general theoretical orientations and a unitary paradigm.

68. Luria, *Etapy proidennogo puti (The Stages of the Traversed Path, In Russian)*, p. 26.

69. Let us note that a group of defectologists who worked side by side with Vygotsky express a similar view. Vygotsky "began to study problems in the education of mentally retarded children," they write, "when he worked at the Teacher Training School in Gomel" (E.S. Beyn, T.A. Vlasova, R.Ye. Levina, N.G. Morozova, Zh.I. Shif. Afterword to the 5th vol. of Vygotsky's *Collected Works*, p. 333).

70. In the SLPM sector Vygotsky was appointed, on July 15, 1924, head of the subsector for the education of physically defective and mentally retarded children.

But science is formed not only by integrating knowledge pertaining to a definite domain. It also necessitates the production of knowledge – an essentially collective activity; Vygotsky proved to be a remarkable organiser of that activity. He demonstrated his abilities as an organiser immediately on becoming an associate of the People's Commissariat for Public Education. It was in that institution, which played a special role in the cultural revolution that was then spreading throughout the country, that intense work was done in the summer of 1924 to prepare the Second Congress for the Social and Legal Protection of Minors.

The consequences of the war and of the country's devastation were still felt, and the education and training of children who had suffered from the war had to be invigorated and guided by the state; that was the task of the Second Congress, and Vygotsky immediately joined in the work. Relying on his Gomel experiences as editor and publisher, he urgently prepared the collection of papers entitled *Questions of Education of Blind, Deaf-and-dumb and Mentally Retarded Children*, which appeared just on the eve of the Congress. If we consider that the Congress was held in November 1924, and that Vygotsky began working at the Commissariat in mid July, it becomes clear that organisational gifts of a very high order had to be at work here in order to prepare, edit and publish that collection.[71]

71. He must have used his old connections: the volume was printed at a Gomel publishers.

That was the first book which he edited, and which included his first scientific publication: "On the Psychology and Pedagogics of Child Defectiveness". But neither the publication of the book under conditions of extreme urgency, nor the organisational preparations for the Congress, were the most important aspects of Vygotsky's activities: much more significant was the ideological and scientific element of his work.

On entering the field of special pedagogics, Vygotsky worked out, over three or four months, ideas that completely destroyed the traditions existing in it. He presented these ideas at the 2nd Congress for the Social and Legal Protection of Minors in November 1924. The innovative burden of Vygotsky's report agitated the audience. The reactions of the audience are described in the memoirs of the well-known educationalist D.I. Azbukin, who was present at the Congress. He writes that the defectologists leaving the 1924 Congress were different people from those who had come to it; it was quite unlike any

other conferences they had attended.

The main point there was Vygotsky's report. It came like a bolt from the blue. At the beginning of the report, a certain part of the audience felt perplexed, people exchanged glances and indignant shrugs. The outcome might be harsh and turbulent. But Vygotsky's profound conviction, his charming voice, the genuine erudition and practical knowledge that were apparent in every line, made everyone realise soon that it was not an irresponsible hothead speaking to them but a profound mind who had every right to be the leader of defectology. Indignant exchanges of looks and shrugs gradually ceased. This new and unfamiliar man who unexpectedly appeared in defectology was obviously very special and promising, and he was listened to with exceptionally acute attention, with eyes that were still full of distrust but also of respect. The session drew a fiery line between the old Soviet defectology and the new one.

Vygotsky's report at the beginning of 1924 at the All-Russia Psychoneurological Congress in Petrograd had become a turning point for a few young minds only. It had not changed the situation in psychology. The effect of Vygotsky's report at the end of 1924 before the All-Russia Congress of Defectologists in Moscow was quite different. It opened a new chapter in the chronicle of the science about abnormal children.

The appearance at the Petrograd Congress rostrum of an obscure provincial teacher was received, despite his striking and original report, as yet another attempt to join in the struggle between reflexologists and psychologists, and to support the position of Konstantin Kornilov and his young followers. Vygotsky's position at the SLPM Congress in Moscow was different.

It was attended by famous pedagogues and doctors with solid experience in working with the special category of children, who relied on the traditions existing in this field. At first, they looked up on Vygotsky as an upstart, as a figure completely alien to their society. Although he represented an official institution, the People's Commissariat for Public Education, in his capacity of head of the subsector for the education of physically defective and mentally retarded children, no one knew anything about his scientific or practical work in the training and education of these children. Here was the young man, asserting with great conviction something that was completely

different from the notions this venerable audience followed in its daily practical work. Was it surprising, then, that his report produced a negative effect?

In assessing the state of affairs in this field, Vygotsky stressed that the "revolution, which has rebuilt our schools from top to bottom, has had almost no effect on the special schools for defective children".[72] These schools were by passed, as it were, by the great changes in the entire system of education and training of normal children in the Soviet Union. Vygotsky believed that the reason lay in abnormal children being habitually treated as a special race qualitatively different in the mechanisms and character of their psychical development from normal children. That false view was inherited by Soviet special pedagogics, according to Vygotsky, from the traditions of the old social world.

72. L. S. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, vol. 5 (Moscow: Pedagogika Publishers, 1982), p. 49.

Vygotsky appealed to his listeners to put an end to the heritage of the

> European special schools which were bourgeois, philanthropic and religious through and through in their social roots and pedagogical orientation … N. Hoppe believes that the most important thing about the training and education of blind deaf mutes in Germany is that they should bear the cross laid on their shoulders by God with faith and patience, and that they should learn to hope, in their darkness, on light eternal.[73]

73. Vygotsky, p. 71.

The speech of Vygotsky, who was then making his very first steps in the area of defectology, demonstrated his profound knowledge of its theory and practice. Sharply criticising the directions in special pedagogics which made the grave error of seeing blindness or deaf-and-dumbness as a disease, he relied on the progressive ideas of such Russian scientists as A.M. Shcherbina and A.V. Birelev who, being blind themselves, provided very fine analyses of the inner world of a blind child, using the data of self-observation.

The energy of Vygotsky's speech at the SLPM Congress was fed by the ideals of the new society. Vygotsky wrote in his preface to the collection of papers which appeared on the eve of the Congress,

> "It is in this country, that the problems of educating blind, deaf and mentally retarded children will be fully solved earlier than in the rest of the world, for these issues are social by their very nature, and only in Russia can they be approached on an entirely new social plane.[74]

Underlying this proposition was an idea that led far beyond the horizon of special defectological problems. It covered both the nature and laws of human behaviour itself and the dependence of theoretical

74. *Voprosy vospitaniyaslepykh, glukhonemykh i umstvenno otstalykh detei (Questions of Education of Blind, Deaf-and-dumb and Mentally Retarded Children, in Russian)* (Moscow, 1924), p. 5.

views concerning these issues on the socio-cultural conditions under which it is discussed and solved. Both the nature of behaviour and its interpretation equally applied to normal forms and to deviations from them. Vygotsky's study of abnormal children had a significant effect on his search for novel ideas about psychical regulation of behaviour.

Soviet society demonstrated its potential for transforming the individual's spiritual world on new, humanist principles. The reality surrounding Vygotsky, the people and their activities were changing right before his eyes. Historical changes were taking place both in being and in consciousness. Feeling the rapid beating of the pulse of the times, Vygotsky absorbed the principle of historicism and social determination of behaviour not only as a philosophical imperative but also as a guiding principle in the transformation of man. It was these socio-cultural circumstances that conditioned his approach to the global "the organism *vs.* the environment" problem that had dominated scientific thought for centuries.

Vygotsky combined his approach to this methodological problem with the practice of defectology. The concept of defect and of the ways, modes or factors of its compensation had always concealed a definite conception of the nature of the organism, for what we are dealing here with is an organic defect of or damage to a living body. The view of the body as a system capable of retaining its integrality owing to its inner potential goes back to Aristotle. That view also affected, down the ages, the understanding of the processes taking place in the organism during illness. In asserting that it is not the disease but the patient that has to be cured, medical thought followed the systems principle, for it saw separate diseases and their symptoms as a reaction of the whole organism. Its ability to cope with the damage, to return life to normal, was attributed to the wisdom of the body. The damage or destruction of one of the organs mobilised others. In this "systems analysis", compensation was limited to the organism as such.

In the middle of the last century, the concept of organism went through radical changes. A revolution took place in biology, peaking in the theories of Charles Darwin, Claude Bernard and Ivan Sechenov. A new mode of systems thinking asserted itself, postulating the organ ism-environment relation rather than the isolated organism as an integral whole. It became obvious that a scientific definition of organism must

also comprise the environment affecting it. Changes and development, the organism's obligatory features, acquired a new content. Previously, changes were attributed to the forces latent in the organism, whereas in the organism environment system they were explained by the general laws of biological evolution.

In the context of the organism's adaptation to the environment evolution appears in two forms: changes in the structure of the body and changes in its behaviour. The mechanisms of acquiring new forms of behaviour and its modification in response to challenges from the environment, were discovered by the theory of conditioned reflexes. These mechanisms were interpreted as universal ones, controlling the work of an integral organism of any level of development, including man.

It has been pointed out already that, in following the natural-scientific orientation and operating with the environment-organism relation, Vygotsky started out from the theory of conditioned reflexes. However, this orientation intersected with another one, prompted by adherence to Marxism, which asserts that man is a natural corporeal being whose nature is social. That is why the concept of environment assumed a special significance in Vygotsky's methodological search. The term was taken to mean the social, cultural, and historical environment. As far as man was concerned, the category of organism was transformed accordingly, for it was deemed inseparable from the environment. A new whole was now posited as an indivisible unit: not the organism, not the organism environment system, but the human organism is the socio-cultural environment.

On the philosophical plane, that signified a transition from biological causality to historical one. In concrete scientific terms that necessitated a revision of the former views on the nature of the human organism and its functions (including psychical ones), and of the factors of development of its relations with the object world created by man out of nature as it is.

The question might be asked, what was the connection between these abstract general problems and the things with which a teacher had to deal on a daily basis as he taught a blind or deaf-and-dumb child? To Vygotsky the thinker this connection appeared quite transparent. He clearly saw that underlying the network of concepts in terms of

which the educationalist built his image of the abnormal child and his plan of working with that child were philosophical assumptions about the organism and the environment. In the case of organisms, a physical defect was regarded in traditional pedagogics as a biological fact determining all the psychological consequences. Hence the view of children's abnormality as a kind of disease.

Relying on both objective analysis and self observations of people with impaired organs, Vygotsky pointed out, in opposition to that view, that their blindness or deaf-and-dumbness is not primary, since they are not felt to be disorders by the subjects themselves, but only secondary, as a result of social experience. A defect is, first of all, a social and not an organic abnormality of behaviour. A bodily defect in a person causes a certain attitude towards that person among the people around him. It is this attitude, and not the defect in itself, that affects the character of psychological relations to a child with impaired sense organs. It was failure to understand the social implications of a defect (which was based on the assumption – a methodological one – concerning the decisive role of the impairment of an organism as such, as a physical structure closed in itself) that confirmed special pedagogics in the view that

> a blind, deaf-and-mute and mentally retarded child could not be measured with the same measuring rod as a normal one. That was the alpha and omega … of nearly all the European and Russian practice of educating defective children.[75]

Vygotsky's innovative ideas sprang from the wide-ranging flights of his theoretical thought, from his ability to see from a great height, as it were, the principles which invisibly rule every day educational processes. His sharp criticism of these principles (following these principles, he said, people discussed the blindness or deafness of a human being as if they would be "a blind dog or a deaf jackal"); his view of the human eye and ear as social, not just physical, organs; his conviction that the loss of these organs signifies "a restructuring of the social links, a displacement of all the systems of behaviour"[76] all these were signs of a new methodology.

In his everyday work, the educator does not reflect on the philosophical premises directing every practical step of his; that was why Vygotsky's programmatic conception of this work produced the initial reaction of puzzlement, confusion and even indignation among his listeners at the Second SLPM Congress. But Vygotsky had both the logic of the development of scientific knowledge and social justice on his side. "Education of physically defective children," he said, "has so

75. *Voprosy vospitaniyaslepykh, glukhonemykh i umstvenno otstalykh detei (Questions of Education of Blind, Deaf-and-dumb and Mentally Retarded Children, in Russian)*, p. 67.

76. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 63.

far been neglected mostly because more urgent problems demanded our attention in the first years of the Revolution."[77]

77. Vygotsky, p. 62.

Having asserted a new social system, the Revolution also created a new "portrait of man", in terms of which the old approach to the education of all children, including children with defects, had to be revised. In old society, they were looked upon "philanthropically", as invalids, as beings of a special kind who required a "hospital-medicinal" approach. That approach reflected the old society's attitude towards them, and not the determination of behaviour by a physical defect independent of that attitude. It was the latter which created the social stereotypes of education, stereotypes pertaining both to the object of education and to its methods. Vygotsky stressed,

> Blindness, varies psychologically in different social environments. The blindness of an American farmer's daughter, of a Ukrainian son's landlord, of a German duchess, of a Russian peasant, of a Swedish worker – these are all psychologically entirely different facts.[78]

78. Vygotsky, p. 70.

To prove his main idea about the dependence of the view of a defect on its social evaluation, Vygotsky suggested the following mental experiment. Imagine, he said, that blindness is regarded in some country as a special socially useful gift. We know that there were times when a blind person was thought to have been born to be a judge, a wise man, a prophet. Obviously, no one in this imaginary country would regard a blind child as defective. An organic defect or flaw does not in itself mean anything. It is realised as a social abnormality of behaviour. The defect is a "social dislocation", and it must be "set … to life, as a dislocated or diseased organ is set"[79] not by physical but by social means.

79. Vygotsky, p. 104.

A new system of education was taking shape in Soviet Russia in opposition to those systems which, placing the emphasis on the defect, ignored "the tons of health" innate in each child's organism.[80] "What mankind has dreamt of as a religious miracle – that the blind should see and that the dumb should speak – is the task of social education emerging in the greatest epoch of mankind's final reconstruction."[81]

80. Vygotsky, pp. 53, 67, 70 et al.

81. Vygotsky, p. 71.

But what scientific truths could Vygotsky rely on in his programmatic conception imbued with optimism and humanism? The old view of the organic defect rested on the notion of its biological determination, while Vygotsky strove to prove that "the blind and the deaf are capable of the entire range of human behaviour".[82] This could only be acknowledged if the psychological mechanism of the behaviour of both the normal and the abnormal child were governed by the

82. Vygotsky, p. 66.

same principle. Of course, biology could not be disregarded. But to substantiate his optimistic views, Vygotsky needed a new biology, and he found it in the theory of conditionality reflexes. It was the principle of conditioning that permitted us, in his view, to assert, in place of the old "pitying" social charity, a powerful social education capable of raising an abnormal child to the normal human type.

It was reliance on Pavlov's theory that made possible, according to Vygotsky, the "final reckoning" with the old pedagogics for difficult childhood, leading to "an extremely profound conclusion: there is no fundamental difference between the education of a blind child and a child who can see; new conditioned knots are tied in the same way for any analyser; the influence of organised external impacts is the determining force of education."[83] He repeated again and again: "The psychological essence of developing conditioned reactions in a blind child (feeling the dots while reading) and a deaf one (lip-reading) is exactly the same as in a normal child."[84]

Traditional theories did not deny that a defect was compensated, but they believed that this occurred owing to increased sensitivity of the other sense organs – the tactile sense in the blind and vision in the deaf. In other words, these "semi-miraculous stories", as called them, laid the main stress on the sensory texture of consciousness, on its sensual-image components, while Vygotsky attached the decisive significance to the organism's signal-mediated relations with the environment, to conditioned-reflex connections with it. "From the physiological standpoint, any educational process can be presented as a process of developing conditioned reflexes to certain conditional signs and signals …"[85] That is why "the behaviour of a blind person or a deaf-mute can be fully equated, from the psychological and pedagogical viewpoints, with normal behaviour … The difference in their education lies in the replacement of certain ways for the formation of conditioned reflexes by others."[86]

The power of Pavlov's theory of conditioned reflexes lies, according to Vygotsky, in the fact that "it shows that *everything* in the individual rests on the generic, innate basis and at the same time everything in it is supra-organic, and conditioned, that is to say, social".[87]

It was at this point, though, that Vygotsky differed from Pavlov; the difference, implicit for the moment, would develop into an open

83. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 43.

84. Vygotsky, p. 66.

85. Vygotsky, p. 103.

86. Vygotsky, pp. 103–4.

87. Vygotsky, p. 155.

polemics, in a few years. The principle of conditionality was generally biological, whereas the principle of sociality assumed a qualitative difference of man's behaviour from that of other living creatures. The "conditioned, that is to say, social" formula contained therefore an inner contradiction, which drove Vygotsky to find new solutions. His divergencies with the theory of conditioned reflexes, not visible to casual observation, were nevertheless contained in the depth of the text, which declared the unlimited power of that theory in the education of both the normal and the abnormal child.

Let us stress two points here. The first has to do with the experiments of V.P. Protopopov, an associate of Vladimir Bekhterev, on which Vygotsky relied in his earlier report, the one he brought from Gomel to the All-Russia Congress. Let us recall that in those experiments the word was used instead of a physical conditional signal (for instance, a conditional reaction – the jerking back of a hand lying on a plate through which electric current was run – first to a flash of light and later to the word "light" only). The situation was quite different in the teaching of an abnormal child. Vygotsky often mentioned the experiments of Ivan Sokolyansky, in whose school the teaching of children with defects was based on the theory of conditioned reflexes. There was a basic difference, however, between these experiments and those of Protopopov.

In Protopopov's experiments a speech signal (say, the word "light") took on the function of a nonverbal signal (a flash of light), replacing the latter. In the experiments of Sokolyansky, who taught abnormal children, the relationship between a nonverbal signal (e.g., a tactile sensation) and a verbal one was the reverse. The impossibility of operating with the oral word (in the case of deafness) or the written one (in the case of blindness) was compensated by the assimilation of another signal, namely, a physical irritant giving rise to nonverbal (tactile, muscular, etc.) sensations. It was not the word that was the sign or substitute for sensations but a sensation (which was now a transformed sensory signal) that became a sign of the word.

The physical agent perceived by a sense organ and substituted for the word became a sign identical to language signs. The work done by a language sign consists in differentiating content entities, meanings, represented in the language system. In their turn, meanings took the

brain beyond that which was given in sensations, in the sensory texture of consciousness, to that which was given in concepts.

Sensations cannot be separated from the sense organs of the perceiving subject, while the concepts embodied in language specify content that has objective value whether the subject realises it or not. They are product of culture. Therefore, sensory signals (tactile sensations for the blind and visual sensations for the deaf) which assume the flesh of speech signs, help the individual that does not know oral or written speech to grow into the socio-cultural world of the whole mankind, making him a full-fledged citizen of it. Vygotsky' principle of the identity of the mechanism of teaching normal and ab normal children challenged traditional defectological work.

He substantiated that principle by the fact that in both cases conditional bonds were formed which were transferred, in case of defects, from the impaired analyser or sense organ to a normal one. The basis for transferring conditional connections from an impaired organ to a normal one is, as has been pointed out, sign substitution. "It is the *meaning* that is *important*, not the *sign*," Vygotsky stressed. "We can *change the sign but retain the meaning*."[88] Soon after, the concept of the sign would begin to play a key role in the system of his psychological views, and he would thus become one of the pioneers of the modern phase in the development of the theory of signs, or semiotics. At the beginning, however, in his passionate desire "to break through the walls between the theories of education of normal and abnormal children"[89] – a task which he tried to solve by using the Pavlov signal principle as a battering ram – he attached no significance to the subtle differences between signal, symbol and sign.

88. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 74, italics mine M. Ya.

89. Vygotsky, p. 57.

Thus when he said that it did not matter whether letters were read by the eye or whether Braille dots were felt by a blind person's fingers, he placed visual and tactile signals in the same class as the signals through which any organism distinguishes between any environmental irritants. On the other hand, he went as far as to equate the sign (which was taken to mean, in fact, the sensory signal) with the symbol, although not so long before he had regarded the latter as an analogue of the artistic image. He stressed this conclusion: "*The difference in symbolism under conditions of absolute identity of the content of all processes of training and education – that is the fundamental principle of*

typhlopedagogics."[90]

90. Vygotsky, p. 74.

The problems of sign and symbol had occupied Vygotsky in the "philological" period of his creative work, when his reflections were centred on problems of the psychology of art. In those days, though, he had no inkling even of the prospect of using these concepts to control man's behaviour as an integral psychophysical system. Only the practice of working with defective children guided him towards that task. Behaviour was studied by reflexology, of which the advantages were determined by the ability to infringe on the real interrelations between the organism and the environment and to change them in accordance with the rules verified in exact experiments. Its effectiveness was naturally envied by psychologists who hoped to be able some day to employ the means of their science to control the spontaneous course of the processes it studied.

When he began to study defectology in earnest, Vygotsky faced the need to organise such control. Resorting to the sign function, he succeeded in building a bridge between the psychology of art and reflexology. Before he made that step, there was, on the one hand, the sign alienated from the individual (a work of art, an artistic text), and on the other, the signal controlling behaviour but alienated from the world of culture. The concept of sign linked up both sides. From texts it borrowed the feature of object-related meaningful content independent of the individual's nervous-psychical makeup, and from conditional irritants or signals, the feature of controlling behaviour.

Combining the two features, it later came to be termed "cultural sign" – the catchword of Vygotsky's theory. Let us bear in mind how that concept was born. It took shape in the process of re-interpretation of conditional irritants (in the context of the compensation problem) regarding the abnormal child's behaviour. Having taken root and developed, it changed the general conception of behaviour, splitting it into two levels – the signal level inherent in all living beings, and the sign level, or the distinctly human level.

The sign concept brought the interaction between the world and the organism in a new causal series different from the one to which the conditional signal belonged. The purpose of that signal was to distinguish between objects and control bodily reactions to them. Objects were interpreted as the realities of the natural environment.

Their adaptation to variable characteristics was achieved by individual experience, by each organism's individual effort, while by using cultural signs, the subject went infinitely far beyond the boundaries of his micro-experience, constructing his behaviour according to supra-individual programmes created by society and accessible to everyone, including an abnormal child.

That new level, the historical level of life, was inexplicable in terms of conditioned reflexes. As we have seen, Vygotsky used this theory against the dogmas of traditional special pedagogics. But in his very first scientific explorations he began his polemics with that theory, believing its principal shortcoming to be the exemption from the structure of man's life activity of its inalienable organiser, consciousness. If this was done, Vygotsky stressed, the development of an integral monistic theory of behaviour, which was the goal of reflexologists' endeavour, proved to be a hopeless task. The idea of extending the reflex principle, in the name of preserving the integrity of that theory, to those highest human forms that were associated with consciousness, was current in reflexological circles already in the early 1920s.

The followers of Vladimir Bekhterev (V.P. Protopopov) and of Ivan Pavlov (Lentz) were in favour of directly applying the conditioned (or combinatory) reflex schema to all human acts. That was reductionism of the first water. Vygotsky rejected it, as did Pavlov and Bekhterev. But Pavlov and Bekhterev were convinced that consciousness, the individual's inner world, were forever closed to truly scientific methods. As for Vygotsky, he accused classical reflexologists of dualism, insisting that the methods which had proved their incomparable advantages over the subjective or introspective ones must be applied to the study of consciousness just as persistently as they were applied with regard to external behaviour. The arguments which Vygotsky wielded in his controversy with reflexologists, whose numbers and popularity far exceeded the authority of a small group of psychologists, were largely of a philosophical nature.

Vygotsky realised that theoretical arguments were not enough, and that he needed some weighty evidence from what Pavlov referred to as "Lord Fact". But the only empirical domain from which he could draw data placing in doubt the universality of the reflex schema was his work on abnormal children. It was this work that argued in favour of

the retention of meanings (concepts, generalisations and other forms of thought) by blind and deaf-and-dumb subjects despite the difference of the sensory signals through which these threads were drawn from the overall intellectual "fabric of the world", in which the consciousness of each individual possessing the human brain was woven. But the reflex theory did not need such a category as meaning, or mental image. It restricted itself to the signal-irritant concept, which Vygotsky transformed into the sign-meaning concept. This was the embryo of Vygotsky's future views on the sign-significant regulation of behaviour, on thought and speech. But all that was yet to come.

Along with the sign concept, rooted in Vygotsky's interest in verbal art, in which the word was regarded by Vygotsky as symbol (recall *Hamlet* and the "words, words, words" formula), which pushed aside the signal concept (coming from Pavlov), yet another fundamental difference between speech reactions and all other conditioned reflexes came to light in the course of Vygotsky's defectological studies. That difference was revealed by the phenomenon of deaf-and-muteness, which, as Vygotsky remarked, "disrupts an individual's social con nections in a more direct way than blindness".[91]

Muteness is "underdevelopment owing to the fact that a deaf person does not hear words and cannot learn to speak".[92] In speech, the feed back mechanism is at work: the irritants or signals produced by the speaker must return to the speaker himself, enabling him to keep speech under control. In a deaf-mute, the mechanism of speech sensations is replaced by different sensations or signals (tactile, visual, and muscular).[93] The conditioned reflex model did not envisage anything of the kind, for it dealt with biological rather than social experience, with a separate organism rather than interacting indi-viduals.

The sign as a differentiator of object content embodied in the sphere of supra-individual cultural meanings and feedback as the basis of speech reactions possible only in communication between human beings – these were the two variables, the two determinants, which brought the work of Vygotsky's thought to a new level and started a new trend.

Although in 1924 Vygotsky began working at the Institute of Psychology, his energies were at that time concentrated on an area of

91. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 77.

92. Vygotsky, p. 77.

93. "The speech of deaf-mutes usually does not develop, it freezes at the stage of reflex cries – not because their speech centres are impaired but because the absence of hearing makes re versibility of the speech reflex impossible." (L.S. Vygotsky, *Sobraniye sochinenii*, Vol. 1, p. 196).

practice that was of no interest to his colleagues at the Institute. He had turned to that field because he felt there was a potential here for the psychologist's intervention in life, for the testing of his ability to change the structure of human behaviour in a special context, raising that behaviour to social forms. At the same time he discovered here an inexhaustible source of empirical data capable of stimulating the growth of his theoretical conceptions. Psychologists drew their facts from laboratory experiments. Their artificiality was a barrier to closer links between scientific results and social practice. Working with abnormal children, the psychologist became directly immersed in this social practice.

Vygotsky's first year in Moscow, the "defectological" year, was devoted to gaining a professional standing in a new field, to studying its traditions, facts and methods in order to transform it into an integral science of a special kind, and to solving the organisational tasks involved in the development of that science in the USSR –publication of papers, preparation for and conducting of the SLPM Congress, etc. Ideological leadership made him the teacher of an entire generation of workers in this field. He was also engaged in educational activities by publishing, for the benefit of rural reading houses, pamphlets like *What Must Be Done for Deaf-mutes, Mental Backwardness and What to Do About It*, and others. As a worker of the People's Commissariat for Public Education, he was in close contact with Nadezhda Krupskaya, Lenin's wife and comrade-in-arms; she also paid considerable attention to the teaching of deaf-mutes.

Having gained the standing of a major authority in this field, Vygotsky was sent by People's Commissar Anatoly Lunacharsky to England as a delegate to the 1925 International Congress for the Training and Education of Deaf-and-dumb Children. In July, he made a report at the Congress where he outlined, in striking form, the new principles of special pedagogics and psychology. He again pointed out the Pavlov theory as the basis for the unity of the principles of educating the normal and the abnormal child, and outlined the methods of Sokolyansky and the ideas of labour school. He said in conclusion,

> In place of philanthropic aid, the teaching of deaf-mutes is seen in the USSR as the concern of the state, the work being directed and organised by the organs of public education … In the years of the blockade, the war and famine, deaf-and-dumb children suffered along with the entire country. At present, along with the whole Union, the establishments for deaf-mutes are going through a period of upsurge, consolidation and

revival.[94]

Vygotsky himself was a most active participant in this creative work, and its ideologue. The new practice was in organic unity with the logic of his scientific thought. It is not surprising that in his programmatic article of that period, "Consciousness as a Problem of the Psychology of Behaviour" (1925), he cited the development of conscious speech in deaf-mutes[95] and of tactile reactions in the blind as the only empirical confirmation of his main theoretical idea about the identity of the "mechanisms of consciousness and of social contact". No other empirical data supporting this idea were available to him at that time.

Meanwhile, his interest in the abnormal child, in difficult childhood, grew and expanded. His non-traditional view of the laws of the behaviour of those children and the tactics of their teach ing attracted increasing numbers of educators. They flocked to Vygotsky's analysis sessions and clinical talks, attracted by his fine analysis of the individual cases illumined by his generalisations.

In 1925 and 1926, Vygotsky organised a laboratory of the psychology of abnormal childhood in Moscow, where in those days the Medico-Pedagogical Station of the Russian Federation's People's Commissariat for Public Education was located, which in 1929 became the Experimental Defectological Institute of that Commissariat (now the Institute of Defectology of the USSR Academy of Pedagogical Sciences). In the last years of his life, Vygotsky was the scientific leader of that Institute. His pedagogical and organisational work in defectology was inseparably linked with an intense theoretical search for new approaches to the fundamental problems of psychology.

His departure from the reflexological trend, which was his ally at the beginning of his career and which exploded the axioms of subjective psychology, was becoming more and more apparent. Now he pointed to the danger of erasing the boundary between training of the sort done on animals and true education. Only recently, he had seen conditioned reflexes as a key to the mechanism of the pedagogical process. Several years later he sharply criticised the attempt "to limit the teaching of a profoundly backward child to, and to substantiate that teaching by, the development of automatic, reflex-based skills".[96] Recalling Voltaire's joke about his wish to go down on all fours while reading Jean Jacques Rousseau, Vygotsky wrote: "Almost all our new

94. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 114.

95. Vygotsky, p. 96.

96. Vygotsky, p. 227-228.

science of the child excites the same feeling: it often sees the child as standing on all fours,"[97] as a quadruped, if highly developed, mammal.

We must note that in referring to "our new science of the child" Vygotsky had in mind the approach which was then asserted by reflexology, which then held very strong positions in many minds and institutions. True, Vygotsky himself, if we are to judge from his *Pedagogical Psychology*, was at first close (despite various reservations) to the on-all-fours position, inasmuch as he believed the conditioned reflex concept to be the scientific basis of teaching. It was not an easy task to overcome this position, especially in a situation in which reflexology laid claims to a monopoly in the science of man. It was not enough to bring put the methodological weakness of that trend (this became clear in the course of various discussions), for it relied on a wealth of concrete scientific objective methods and data – something that psychology could not boast of. Vygotsky continued to search for such methods and data in the area of defectology. Here he concentrated on one of the most import ant phenomena in the behaviour of the abnormal child, which came to be known as overcompensation.

Semyon Frank, who worked before the Revolution at Bekhterev's Psychoneurological Institute, once expressed his dissatisfaction with the tendency to explain the behaviour of all living beings from the same biological principles by pointing out that in Goethe, as opposed to Rousseau, nature, "far from negating man's vertical posture, necessitated such a posture". What he meant here was progress towards humanity as opposed to movement back to the primitive state. Vygotsky bore that in mind when he said in 1929: "The theory of conditioned reflexes draws man's horizontal, while the theory of overcompensation specifies his vertical."[98]

The overcompensation concept came to Soviet psychology from the West. It reflected a real phenomenon which Vygotsky encountered in his work with abnormal children. In studying their behaviour, he saw that impairment of an organ had a dual effect: impeding and disrupting the organism's activity, it at the same time mobilised its functions to replace weakened or lost ones. "The defect-overcompensation line is the main line in the development of a child with an impaired function or organ,"[99] insisted Vygotsky. The view that defects of organs stimulated the individual's development was put forward by

97. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 49.

98. Vygotsky, p. 49.

99. Vygotsky, p. 40.

Alfred Adler; at one time, Vygotsky saw the advantage of this approach in that it explained the way in which "the expedient and the higher necessarily arose out of the inexpedient and the lower".[100]

100. Vygotsky, p. 37.

Later, though, Vygotsky rejected the Adler position as permeated with teleologism, i.e., an attitude incompatible with causal explanation of behaviour. As far as sense organs and the orientation of a child with a defect in the object world given in sensations and perceptions was concerned, defect compensation was handled, as we see, in complete accordance with the norms of scientific cognition: an attempt was made to prove that a sound organ was "switched on" instead of an impaired one, compensating the damage and ensuring adaptation to the world.

We have also seen that, at a higher level of adaptation, namely, the intellectual one, the introduction of the category of the sign permitted Vygotsky to explain the unfolding of the process by which an abnormal child masters meanings as elements of social memory which involves him in mankind's spiritual work and thus compensates the defect. In the replacement of one physiological organ (analyser) by another, of one class of signs (e.g., the words of oral or written speech) by another class of signs, the organs and signs differentiated with the aid of these organs were external determinants whose action causally explained the entry of abnormal children into the sphere of culture.

However, this entry was associated in this case only with one aspect of the child's activity – his ability to cognise the environment in order to achieve a level at which the mind of a normal child works. But man's life is not exhausted by the cognitive attitude to the world. That attitude itself is permeated by the individual's social relations with other people. In the case of a defect, of difficulties inevitably disrupting the usual social links, a very special aspiration is awakened in the child – the desire not only to achieve the same results as others, to be on a par with them, but also to strain all his resources to surpass them in some respect. That is their way of asserting themselves – not just compensating but overcompensating their defect. The overcompensation phenomenon was apparently an indication of a special personal motivation aspect of the child's activity.

Reflections on the individual and the forces driving him had haunted Vygotsky from the times when his spiritual interest was first aroused. In his youth, he searched for answers to these questions in

Shakespeare, Dostoyevsky or Spinoza. His transition from art and philosophy to the concrete empirical science of psychology pushed aside for a while the issues of motive, urge, affect, and the personality element in man. The latter's difference from other living beings was seen above all in the attempts to explain the structure of consciousness as a special psychical apparatus created by speech and communication. Vygotsky tested these first theoretical conceptions of his in his practical study of abnormal children. And it was precisely practical work that compelled him to turn to the psychology of the individual, a field which he had previously visualised only in the symbols of art. Now the task was to interpret that psychology in terms of scientific concepts, not artistic images.

It was these concepts only that opened prospects for a causal explanation of behaviour regulation in terms of personal motivation, and the knowledge of causes, for a "science-consuming" practical control of behaviour. At this point we again see what role Vygotsky's daily contact with abnormal children played in his scholarly work as a psychologist.

We have pointed out already that Vygotsky resolutely rejected the "individual psychology" of Alfred Adler. Despite Adler's invoking social factors (which he regarded, in opposition to Freud's pansexualism, as primary), his psychology was individualistic through and through. Just like other branches of psychoanalysis, it was permeated from the outset by the ideas of antagonism between personality and society. It regarded the individual as a product of his own creativity, stimulated by his defenceless ness in the face of a hostile world, increased by the subject's awareness of his defect. The principal determinant of the compensatory and over-compensatory reactions was *elan vital* stemming from the depth of the individual psyche.

Adler insisted on the individual being an integral entity characterised by unique life styles and aspiring towards the future rather than hopelessly chained to the past, as Freud taught. Vygotsky attached quite a different meaning to this aspiration of the child towards the future. According to Adler, the individual's motive force was a deep-lying "psychoid factor", while Vygotsky believed it was a social model outside the individual.

The role of that model – a definite human type – stood out quite

clearly in the development of the abnormal child. Children with defects aspire to a level of behaviour characteristic of a normal child. This task of the individual, achieved in a roundabout way, is obviously socially predetermined. Initially, Vygotsky saw these roundabout ways only in terms of replacement of one sense organ by another, while now this replacement was switched to a higher level – that of personality.

An abnormal child not only feels the need to master certain sensory-motor and intellectual skills which other children have. He endeavours to construct his personality in their likeness. It is a social model rather than a child's vital reaction to his inferiority complex that is the determinant of that child's behaviour. In studying that behaviour, Vygotsky used defectological data to reveal factors which also control the development of the normal human psyche. The most important of these is the "social help of another human being" – the factor which, at the beginning, is for a child with a defect "his *reason*, his *will*, his *activity*".[101]

101. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 229.

The problem of roundabout ways built by adults in the process of teaching abnormal children led Vygotsky to one of his theories which later caused an acute controversy in Soviet psychology. He wrote,

> Faced with a child deviating from the normal human type, a child weighed down by a defect in his psychophysiological makeup, an observer, even a naive observer, will notice at once convergence being replaced by deep divergence and incompatibility between the lines of natural development and cultural development.[102]

102. Vygotsky, p. 170–71.

This divergence would be latent if it were not for the cruel experiment of nature which sharply separated two forms of behaviour, that of the normal child and that of a child suffering from a defect. In the latter's case, the impossibility of cultural development of the psyche on a "straight path" necessitated the creation of roundabout ways.

Let us note that the idea of different types and forms of development – natural and cultural – meant not so much the transformation of sensory signals (tactile ones in blind subjects, visual ones in deaf-mutes, etc.) into cultural signs, as Vygotsky originally believed, as changes in the purpose of these signs. They were now seen as tools for the building of the higher functions – attention (voluntarily controlled), think ing (abstract), memory (logical), etc. These were all intellectual functions, but Vygotsky's mind constantly levelled on systems links between different functions, their incorporation in the inner personality

structure. We have seen indications of this in his close attention to the phenomenon of overcompensation and in his polemics with Adler.

Several years later he became involved in an even more acute polemics with Kurt Lewin, another outstanding Western psychologist. The latter approached mental backwardness in terms of its dependence on general disorders in psychical life, on affective disorders in the first place. The Lewin theory gave a strong impetus to a new series of studies by Vygotsky. This time they covered the problems of relations between affect (motivation) and intellect. In Lewin's experiment, actions of retarded children were compared to those of normal ones, the decisive role being attributed to affects (the dynamics of motivation), while intellect was seen as secondary.

The motivations of a retarded child are marked by sluggishness and rigidity, an inclination to stick to a single objective, once it is selected. Lewin confirmed that fact by a series of experiments. In particular, the familiar experiments used to study the satiation phenomenon were conducted. If a child is told to carry out a certain task (say, to draw faces), he will refuse to carry on with it after a certain period of time. Satiation sets in. The motivation is exhausted. Experiments have proved that this is observed in all children, the working capacity of mentally retarded children being just as high as normal ones. Lewin explained satiation entirely in terms of motivation energy (the affective factor) being exhausted. In similar experimental conditions, Vygotsky demonstrated the importance of the meaning of the situation for the child. When a retarded child stopped drawing because of motivation satiation, the experimenter made the situation more attractive by replacing a black pencil by a set of coloured ones, then by watercolours, etc. The activity was continued in this case despite the satiation. Relying on these and similar experiments, Vygotsky wrote: "thought and affect are parts of a single whole – the human consciousness",[103] a whole that is *developing*, the principle of development, though, was alien to Lewin.

We have seen how varied was the range of problems, facts and hypotheses that swarmed in Vygotsky's creative mind throughout his "Moscow decade", when he daily examined abnormal children, analysing the causes of disruption of their psychical functions and searching for ways of bringing out their potential. His most important

103. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 251.

theoretical notions – those of the cultural sign as a mediator in the individual's intercourse with the object world, meaning as the socio-cultural element of personality, independent from the individual, personality being regarded as a system of interconnected psychical functions with a history of its own; the difference between natural and cultural forms of behaviour; the unity of intellect and affect – those were all forged and tested in his everyday work with abnormal children who became for Vygotsky the principal object of empirical study linked with education and training in the name of the higher social goals.

Art: A Social Technique For The Emotions

The arts – poetry, prose, the theatre – were Vygotsky's first love, he was true to them all his life. He saw them as a key to the secrets of the soul, to an understanding of the meaning of human life. How does art illumine the meaning of life? That question absorbed him already in his student years. We should recall that in those days he saw the artistic image as a symbol through which the individual senses the tragedy of his existence in this world.

The upheaval that took place in his world view in the first years after the Revolution radically changed these notions. Symbolism and impressionism, the trends that had lured the student Vygotsky into the field of literary criticism, were eclipsed in the light of the new social world. The men who became the builders of that world hungered for real, exact, rational knowledge. Vygotsky searched for that knowledge already in Gomel where he, then a teacher of literature, analysed the influence of literature on his pupils and the nature of its perception by children's souls. This required a study of psychology.

When he moved to Moscow, he abandoned for a while his studies in the psychology of artistic education. In that period he faced different tasks, both theoretical and practical. The latter, as we have seen, were largely connected with his work at the People's Commissariat for Public Education, with the building of a defectological service in this country.

But he was also on the staff of the Institute of Psychology. There was a time when dead silence reigned behind the thick curtains of the

Institute's laboratories, as required by the technique of the experiments cultivated by subjective psychology. In those experiments the subjects were asked to concentrate on what went on in their minds and to give an account of the processes. But when Vygotsky joined the Institute, nothing in it reminded one of the formerly solid institution. Its laboratories and corridors were filled with young people who argued passionately and incessantly about ways of rebuilding psychology. Could one study consciousness in the kennels of the reflexologists? Was Freud compatible with Marx? In these discussions, the subjective method was decried as inferior to the objective one by all except a dwindling handful of Chelpanov's followers. There were demands on all sides to study the organism's behaviour, not spiritual phenomena.

A maze was set up in one of the laboratories, after the American model, and experiments were conducted there on rats, as in all behaviourist establishments. Because that temple of science was little suited for such experiments, the rats escaped; they were all over the institute's building, and bit those who tried to catch them.

The Institute's workers were unanimous in their conviction that psychology had to be rebuilt on a Marxist basis, only no one knew how that reform was to be implemented. The leading figure at the Institute was its director Konstantin Kornilov, a former associate of Chelpanov. He believed that the only solution compatible with Marxism would be to combine the empirical psychology of consciousness with the theory of reflexes. He invoked Hegel's dialectics and his famous triad: thesis-antithesis-synthesis. The subjective (or consciousness) was, according to Kornilov, the thesis, the objective (behaviour), the antithesis. The synthesis was integration of these two in a unitary element which he termed reaction.

The Institute's laboratories were hurriedly renamed. Laboratories for the study of visual reactions (that was the new term for visual perception), memory reactions, etc., made their appearance. Pavlov once forbade his associates to use psychological terms to explain animal behaviour (such phrases as "the dog felt", "the dog recalled", etc.), imposing fines on offenders. Now the director of the Institute of Psychology was trying to change the language of his science in order to put an end to the influence of empirical psychology with its subjective method on the young minds. He was later reproached for

having replaced it by a variety of behaviourism.[104] But that was unjust. He believed consciousness to be just as inalienable an element of the phenomena studied by psychology (the reactions) as their objective bodily expression. However inadequate his theory, which he called reactological (several years later it became obvious that a system of scientific psychology could not be built on the synthesis suggested by Kornilov), it was due to this theory that a decisive impetus was given to the movement of Soviet psychology towards Marxism.

104. Luria, *Etapy proidennogo puti (The Stages of the Traversed Path, In Russian)*, p. 18.

Transferring to the Moscow Institute of Psychology, Vygotsky accepted Kornilov's concept of reaction. Reactology, in which consciousness (the subjective world) was believed to be just as necessary apart of the subject-matter of psychology as bodily reactions, was seen by Vygotsky as an important corrective to reflexology, which in those years had the reputation of the only scientific discipline about the behaviour of living beings. The term "reaction" was also attractive in that it had a solid tradition in experimental psychology, where it appeared in the mid-19th century in connection with the study of the time a subject needed to respond to a perceived signal by some movement. The time was measured with the aid of certain devices. It was subjective-psychical in nature yet accessible to objective measurement.

Supporting Kornilov's reactology, Vygotsky at the same time moved in a different direction and along a different path. The first turning on that path was the familiar category of speech reflex. Following the traditions of experimental psychology in which he had once been brought up by Chelpanov, Kornilov worked with "voiceless", mute consciousness. As for Vygotsky, the focus of his mental life had always been the concept of the word; moving away from his former studies in literary texts to the psychology of behaviour, he from the very start saw the human forms of this behaviour as inseparable from the word. The difference of his philosophical past, that is, his ideological genealogy, from Kornilov's, led to a divergence from the reactological platform.

Vygotsky shared his plans for the reform of psychology with two young workers of the Institute, Alexei Leontyev and Alexander Luria (they were not twenty at the time), who became his closest associates. In the first years of their friendship, though, their interests differed. Luria and Leontyev used the old technique for the study of reactions and associations but modified it to diagnose stresses arising in extreme

life situations (e.g., when the subjects were accused of committing a crime or when students had to sit for an exam, etc.).

The experimenters applied the so-called motor method, which combined the study of motor reactions with verbal ones. Kornilov was interested only in motor reactions, while Luria decided to combine muscular reactions with Jung's familiar "free association" test. In this test, the subject had to react to a word supplied by the experimenter by uttering the first word that came into his mind. The character of the reaction (the sort of word used, the time lag between stimulus and reaction, presence or absence of stammering, etc.) permitted an assessment of the subject's emotional state. Luria modified Jung's method: pronouncing his reaction to the word supplied by the experimenter, the subject simultaneously squeezed a rubber ball, while his left hand lay on another ball. The instruction prescribed no movements with the left hand. It was found in these experiments that, reacting to words that reminded the subject of some disturbing events, he made involuntary movements with his left hand, which betrayed his concealed emotions (affective complexes).[105]

105. Luria's method was later used by American psychologists in developing the lie detector.

Vygotsky saw that these experiments were different from those of Kornilov, in which only the intensity and duration of motor reactions were recorded, while Luria introduced the word in the schema of the experiment, both as an irritant and as a reaction on the part of the subject. The procedure as a whole was regarded as an objective indicator of emotional surges uncontrolled by consciousness or will.

Vygotsky had long been interested in both the problems of language and in the psychology of emotions, but he interpreted both sets of problems in the context of a supertask that intrigued him from his youth to his last days- that of grasping the nature of relations between the individual and culture.

An emotional experience is a concentration of personality-based meanings. Vygotsky was interested in the forms of emotional experience which immersed man in the world of higher spiritual values; as to the history of that world, his search was centred on aesthetic values em bodied in the inner structure of language. Application of experiments, as required by scientific psychology, to these emotional experiences as the highest and most subtle phenomena of human being remained problematic. In any case, the emotions which psychologists tried to

diagnose with the aid of Luria's combined motor method were not of the aesthetic kind. Equally, the separate words supplied by the experimenter to elicit the subjects' speech reactions by association, which could indicate hidden affective complexes, belonged to a class that was entirely different from the combinations of words out of which artistic texts are built.

Vygotsky's quest was not in keeping with the experimental model devised by his young friends Luria and Leontyev. He had no other model, and he drew the facts – which are, in the words of Ivan Pavlov, the "scientist's air" – from his work with abnormal children, which greatly taxed his strength. This affected his health.

Soon after his trip abroad, where he went to study the defectological establishments in several countries of Western Europe, and to make a report at the International Congress in London, he came down with a bad attack of tuberculosis. The doctors forbade him to work and sent him to a sanatorium. Unable to take part in the work of the Institute or to deliver lectures, he began a study that could be carried out entirely on the basis of literary sources and of his experience of teaching literature in Gomel. The title of that study was *The Psychology of Art*.

The name itself indicated a novelty of approach. Vygotsky's subject was not the psychology of the process of creative work (the inception of an idea, inspiration, intuition, etc.), of which a great deal had been written: he believed that in art, in the artistic text or the product as such, the texture itself of aesthetic objects is threaded with psychological elements. But what was the nature of those psychological elements? To understand that one had to have a general notion of that nature. Where was that notion to be drawn from? The student of artistic works apparently had no other approach open to him except to borrow it from psychology. Previous psychology believed its subject-matter to be consciousness – the processes and phenomena of the inner world experienced by the subject. Any attempts to explain art on the basis of the dynamics of those processes deprived it of subject independent value. That was subjectivism unacceptable to the science of art.

At the beginning of the 20th century, it be came obvious that this subjectivism was also unacceptable to psychology itself. The psychol-

ogists' idea of consciousness was rejected every where. Vygotsky defined that situation as "the crisis of subjectivism". In literary theory, the reaction to that crisis took the form of the so-called formal school. It was marked by precise analysis, similar to the methods of natural science, of the devices used in the construction of literary texts, of art as object independent of the subject's psychical states. The experience of the formal school permitted the identification in a work of art of stable components (invariants) remaining the same despite differences in content. It was impossible to judge from the properties of the original material what construction or form would be created by the artist, just as it was impossible to state, from a set of musical sounds, the mode of their combination in a melody. Besides, one and the same melody could be reproduced in different sound materials; so the melody was a device, form, and structure.

Vygotsky believed the interpretation of form as a mode of construction and organisation of material to be extremely fruitful from the psychological standpoint as well. Form is a reality of a special kind. It should be distinguished from material – a distinction of the greatest importance to psychology. The point is that previous attempts at a psychological analysis of art were reduced to the study of the subject's reactions to the content of a work, to the impressions, emotions, ideas, etc. which it evoked, whereas Vygotsky was the first psychologist to broach the question of the psychology of form.[106]

This question did not even arise in the formal school. When it tried to explain the effect of art on the individual, it found itself in a trap of home-grown psychology which reduced consciousness to sense perceptions. That was Vygotsky's judgement on the views of Viktor Shklovsky, one of the leaders of the formal school. He criticised Shklovsky's assertion that "in art the process of perception is a goal in itself", remarking on this score: "measuring the value of art by the sweetness it offers our senses unexpectedly reveals the entire psychological poverty of formalism, taking us back to Kant".[107] He also believed the "estrangement" formula or, in his words, the formula of "reviving perception", to be just as false; according to that formula, we do not notice familiar "packaged" things and the goal of art is to unpack them by means of the special device of estrangement. That device in creased the "difficulty and length of perception", making a

106. If we ignore "the emotion of form", he stressed, we shall have to admit that there is "no difference at all between the intellectual enjoyment and the solution of a mathematical problem and listening to a concert". (L. S. Vygotsky, *Psikhologiya iskusstva*, p. 56.)

107. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, p. 86.

thing "unusual" and "fresh".

The formal school's antipsychologism unexpectedly led to a hedonist and individualistic interpretation of the psyche. Vygotsky stressed that the question of "the meaning and structure of the entire artistic form" could not he solved "without a definite idea in the area of the psychology of art".[108]

108. Vygotsky, p. 86.

A paradoxical picture thus emerged. Having routed subjective psychology, the formal school found itself its hopeless captive. The other trend that was waging a crusade against subjective psychology, or reflexology, had a similar fate. Pushing consciousness out of the door of exact science, reflexology let it in through the window. Just as reflexologists took pride in an objective approach to behaviour, the formal school took its pride in an objective approach to art. Both trends, though, could not avoid the pitfalls of dualism. In reflexology, man was split because the reactions of his organism to stimuli (conditioned reflexes) pertained to one world, and its mental processes, to another, and the latter had nothing in common with bodily behaviour. In the formal school, it was art that was split, for its creations appeared as structures independent of the fundamental problems of man's life and activity in the social environment, so that these problems were seen as having no bearing on art whatever.

Both reflexology and the formal school asserted the objective approach to the phenomena they studied, and therein lay their progressive role; but they were unable to extend it to man as an integral corporeal-spiritual being. The formal school in literary theory, and behavioural reflexology, came into being in an atmosphere of the crisis of subjectivism. On the other hand, their weak points were, in Vygotsky's view, manifestations of the crisis of objectivism. He explained the source of the crisis better than any other thinker of those times. It lay in the pro ducts of culture (in the form of works of art) being sundered from the individual's behaviour and consciousness. The search for a synthesis of the works of culture and the individual's activity determined Vygotsky's path in psychology. Art alienated from man and oriented at a world of pure forms and constructions had to be linked up with man alienated from art (man's programme of behaviour being reduced to the organisation of reflexes in reflexology and of reactions, in reactology).

Vygotsky primarily relied on the word. "At the beginning was the word," he used to say as he handled the fundamentals of developmental psychology. The same dictum applies to the roots of his own psychological theory. Let us bear in mind, however, that the word itself can be interpreted in different ways depending on the categories in which it is perceived. Thus in the categories of reflexology the word was seen as irritant and reaction; in the categories of new literary theory (i.e., the formal school) – as structure, construction, or device. There was no connection between the two classes of these categories (reflexological and literary-theoretical). They took shape according to the specific logic of the development of both these trends. But Vygotsky's mind integrated these two classes. He put the literary (poetic) text in place of what was designated as "irritant" in reflexology.

In Vygotsky's usage this term acquired a new, "hybrid" meaning, one that was not familiar either to the behaviourist or to the literary theoretician. The notion of reaction – response to poetic (cultural-historical) stimuli – was thus ascribed unusual characteristics. This notion also proved to be of a "hybrid" nature, endowed with new content. Thus emerged the conception of a special form of human activity, which Vygotsky termed aesthetic reaction.

"Any work of art is naturally regarded by the psychologist as a system of irritants consciously and deliberately organised in such a way as to produce an aesthetic reaction. In analysing the structure of the irritants, we reproduce the structure of the reaction."[109] It followed from the reflexological model of behaviour that the study of irritants was necessary for explaining the way in which they cause an effect useful to the organism. The reference here was to a biological effect – an action by which a living body adapts itself to the environment or, as Pavlov used to put it, an action through which the body and the environment became balanced.

In studying the structure of the text, the formal school did not correlate it with the changes which "art as device" produces in the individual's actual behaviour and organism. Correlating the literary text, as a system of special irritants, with the stimulus-reaction formula, Vygotsky defined, in opposition to the formal school, the aesthetic value of this text in terms of the shift it produces in man's nervous-psychical sphere. He intended to find out what actually takes place in

109. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, p. 40.

man's encounter with a work of art–not in the soul as it was conceived in the theories of old psychology but in the actual flesh-and-blood subject.

The inability of psychology to provide a natural-scientific explanation for an individual's emotional experiences inspired the adherents of the "psychology of the mind" to defend the opinion that all such experiences, including aesthetic ones, were forever closed, being cultural phenomena, to causal analysis. They opposed a different approach to causal analysis: description and analysis of ideal phenomena, the demand to construct psychological knowledge on the model of mathematical, say geometrical, knowledge.

In proving that the sum of the angles of a triangle equals two right angles, geometry proceeds from the notion of a triangle as an ideal object. It ignores the real triangular objects corresponding to the triangle and the causes that bring about this mathematically precise result. Dilthey and his followers proposed to analyse the domain of emotional experiences from the same positions, opposing that domain to all that is material, corporeal, and objectively perceived – both in essence and in the mode of cognition. On the one hand, Vygotsky faced the dualism of reflexology powerless to deal with the higher, truly human, forms of behaviour; on the other, he confronted the dualism of the "psychology of the mind" powerless to deal with the real, corporeal mechanisms of that behaviour.

Vygotsky firmly followed the orientation on the body rather than the incorporeal mind or spirit, on empirical study of the real causes of phenomena rather than analysis of the intelligible essences of the geometrical type. With this approach, it was necessary to overcome the narrow, limited interpretation of the body and its potential, determined by the achievements of reflexology. *The Psychology of Art* began and ended with a line from Spinoza's Ethics: "No one has thus far determined what the body can do." Whether he realised that or not in starting out from that idea, he chose, in the context of future development of natural-scientific thought, the path of transforming the category of organism, which is just as historical as any other.

Let us pay attention to the context in which that judgement appeared. Spinoza contested the conviction that it was impossible to deduce from man's corporeal nature "the causes of architectural build-

ings, the works of painters, and so on", in other words, the works of art. Objecting to those who believed that for the creation of these objects the body must be determined and guided by the soul as a material element, Spinoza wrote: "I have already shown that they know not what a body is, or what can be deduced from mere contemplation …"[110] Spinoza wrote these words two and a half centuries before Vygotsky's argument with those who believed that the products of culture are created by an incorporeal mind. Like Spinoza before him, he could say: "They know not what a body is."

110. Spinoza, *Spinoza's Ethics and De intellects emendatione* (New York, 1925), p. 88.

But not only the adherents of views rejected by Spinoza were ignorant of what a body is. Materialist reflexologists (and there was no other materialist interpretation of behaviour then) were just as little able to deduce the causes of "architectural buildings, paintings, and so on" from a mere contemplation of the nature of the body. In daring to substantiate the flight of Spinoza's philosophical thought by concrete scientific analysis of the perception of literary texts, Vygotsky undertook to show that the human organism is capable of reactions of a special higher type caused by works of art. "My thought, he wrote at the end of the preface to *The Psychology of Art*, took shape under the impact of Spinoza's words cited in the epigraph."[111]

111. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, p. 18.

But these words belonged to a different age, one in which the Universe appeared to the mind in the form of a giant mechanism, whereas Vygotsky stated firmly: "Art is the social in us."[112] And this could only be said after Marx. "No one showed more clearly than Plekhanov," wrote Vygotsky, "the theoretical and methodological necessity of psychological studies for a Marxist theory of art."[113] According to Plekhanov, it was not enough to find a sociological equivalent of a work of art. That was only the first step, to be followed by an analysis of its own aesthetic merits which were in their turn determined by the psyche of the social man.

112. Vygotsky, p. 18.

113. Vygotsky, p. 18.

But Vygotsky did not stop here. He went further. He belonged to a new generation of the Russian intelligentsia, which was inspired by the idea of an inner link between spiritual assimilation of the world and its practical transformation. Revealing the mechanism of art's impact on the real behaviour of a concrete individual, without restricting oneself to determining its sociological roots and aesthetic specificity – that was Vygotsky's purpose. He endeavoured to prove that art is a means of transforming the individual, an instrument which calls to life the individual's "vast potential, so far suppressed and constrained".[114] The

114. Vygotsky, p. 320.

view of art as ornamentation of life

> fundamentally contradicts the laws of art discovered by psychological research. It shows that art is the highest concentration of all the biological and social processes in which the individual is involved in society, that it is a mode of finding a balance between man and the world in the most critical and responsible moments of life.[115]

But what psychology could one rely on in order to explain the mechanism of the impact of art on human behaviour? Vygotsky believed that his task was to "speak in the language of objective psychology about the objective facts of art".[116] The language in which objective psychology spoke in those days was the language of the body. Reflex was the main word in that language. Vygotsky set out to build a new objective psychology capable of explaining the way in which a product of art regulates behaviour in a way different from physical signals. For this purpose he worked out a special concept of aesthetic reaction as an integral systemically organised living human action integrating socio cultural, personality-based and neurophysiological elements.[117]

Vygotsky borrowed from Georgy Plekhanov the main explanatory principle of *The Psychology of Art*, the so-called antithesis principle. By bringing out the dialectics of the biological, the psychical and the aesthetic, it permitted him to find a means of verifying his new theoretical schema by applying it to works of art – the fable, the short story, and the tragedy. "The psychological nature of man," wrote Plekhanov, "enables him to have aesthetic notions, and determines the extremely important, so far underestimated, the role of Darwin's *antithesis principle* (Hegel's *'contradiction'*) in the mechanism of those notions."[118]

Darwin, cited by Plekhanov, applied the "antithesis principle" to the solution of a biological problem. He explained that principle in the following way: if a certain emotion causes a movement, the opposite emotion causes an opposite movement even if the latter never had any practical significance. Thus laughter, according to Darwin, was opposed to sobbing in that the latter consists of spasmodically interrupted in takes of breath while laughter is a series of spasmodically interrupted expirations.

Following Plekhanov, Vygotsky insisted that "this remarkable law discovered by Darwin undoubtedly applies to art".[119] Here Vygotsky

115. Vygotsky, p. 330–31.

116. Vygotsky, p. 17.

117. Following Gennecken and other authors, Vygotsky believed it possible to consider works of art as ensembles of "aesthetic signs". The transitions from the symbol concept to the signal concept, and then on to the concept of the sign, marked basic changes in the movements of Vygotsky's thought. But the wide use of the term "sign" in one of the periods of his creative work must not conceal the fact that Vygotskys psychology of art is a theory of the organisms integral reactions, not a theory of signs.

118. G. V. Plekhanov, *Iskusstvo (Art, In Russian)* (Moscow: Novaya Moskva Publishers, 1922), p. 54.

119. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, p. 270.

laid the cornerstone of his entire construction.

The aesthetic is not an independent spiritual phenomenon but a form of behaviour. For this reason, a psychological explanation of the aesthetic reaction must of necessity be psychophysiological, that is to say, covering all the processes occurring not only in the sphere of consciousness (or the subconscious psyche) but also in the organism as an integral system realising its activity in terms of neuromechanisms.

In explaining these mechanisms, Vygotsky followed Charles Sherrington. The funnel concept, which interpreted the nervous system as the arena of conflict between opposite impulses in the struggle for the motor field, was consonant with the idea of the structure of the artistic text as permeated from within by the conflict of two planes or motives. Vygotsky chose the funnel as a neurophysiological analogue of the text, without which this text, saturated from the outset with drama, could not produce an aesthetic experience (counter-feeling) in the body. "When the steam pressure in the boiler exceeds the resistance of its body, the safety valve must be opened. Art seems to be a means of this explosive balancing with the environment at critical points in our behaviour."[120] That's what an aesthetic reaction is.

120. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, p. 314.

Konstantin Kornilov combined the notion of reaction as a synthesis of the objective and the subjective with the principle of "one-pole expenditure of energy", according to which ner vous energy has the tendency to be expended at one pole only – either in the centre or in the peripheral organs. Its expenditure at one of the poles entails its weakening at the other. Changes in the intensity of an objectively observed motor reaction were regarded as indicators of an in crease or weakening of psychological work (in the centres). It was assumed that delays in movements were caused by the outflow of energy from muscles to nervous centres, to be used for the solutions of mental tasks. Originally, Vygotsky presented the character of the relations between a bodily emotional ex plosion and the imagination on the same model. "Just as the intellect," he wrote, "is only inhibited will, fantasy can probably be presented as inhibited emotion."[121] Vygotsky thus seemed to follow the reactological trend of ideas. In actual fact, though, he overcame its limitations at once when he introduced, as a determinant of the changes in the organism, not a physical irritant but a work of art – a product of culture with an objective, socially specified structure.

121. Vygotsky, p. 70.

It was here that the watershed between the views of Kornilov and Vygotsky lay.

In *The Psychology of Art*, Vygotsky introduced an agent which Kornilov's reactology did not know – an activator of man's nervous-muscular work which produced a psychical effect; that agent was a poetic work whose objective structure, like a machine, contained a schema determining the character of bodily reactions.

This solution of the problem had been prepared by Vygotsky's study of the experiences of the formal school in literary theory, its orientation towards revealing the objective construction of the poetic word, a construction that is independent of the individual's psychic acts. It was this recognition of the word's individual independent value, and thereby of its inclusion in a special determinant series, that permitted Vygotsky to proceed from a dyadic schema of reactology (behaviour-consciousness) to a triadic one (a work of art-behaviour-consciousness), that is to say, to sow the seed from which the cultural-historical system of Vygotsky and his school grew.

Now, what element of cultural product was regarded as the source of those reactions which, in accordance with the "antithesis principle", extinguish antagonistic processes in the nervous system, producing an effect that is included in the class of aesthetic effects? In keeping with that principle, it was necessary to consider in terms of the antithesis the properties of the literary work itself as an organiser of an aesthetic reaction rather than the organism.

To solve this task, Vygotsky wrote several studies in fables, short stories and tragedies, to present in operationalist terms, as it were, his socio-psychological theory of art. He gave an unsurpassed analysis of some fables by the Russian fabulist Krylov, showing them to be "little tragedies" whose aesthetic effect is produced by an affective conflict of two motives. Thus in the fable about the dragon-fly and the ant we mentioned above, the dragon-fly which flits about carefree all summer is contrasted with the wise and industrious ant. According to Vygotsky, the whole force of the fable lies in the contrast between the dragon-fly's past merriment and present misfortune. The conflict reaches its peak in the ant's concluding remark: "So you sang all summer? That's good. Now go and dance!" The words "go and dance" have two meanings: the direct one, "enjoy yourself" (cf. "you sang") and the

hidden one, "go and die".

Vygotsky believed that the emotional double of the "antithesis principle" was a phenomenon which he called "counterfeeling". It lies in the very structure of the artistic work, where action develops in two conflicting directions simultaneously, each of them causing a feeling contrary to the other. Two currents begin to flow and are then short-circuited. There are two planes everywhere: "underlying the principal meaning is another, directly destroying the former". The "antithesis principle" did not appear here as a universal philosophical principle as in Hegel or as a property of the nervous-muscular structure involved in emotional behaviour, as in Darwin and Sherrington. What Vygotsky dealt with here was aesthetic "wheels" imbedded in the structure of a poetic work and setting in motion "the general mechanisms of the psyche of social man".[122] The "wheels" work in such a way as to produce at one and the same moment opposite feelings, straining them and discharging them in a "catastrophe".

122. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, p. 177.

That is the basis on which are built, according to Vygotsky, both fables and tragedies. "In a tragedy, we know that the two story lines developing in it end in one common catastrophe, which simultaneously signifies the peak of the hero's destruction and the peak of his triumph."[123] The conflict of the two lines creates a "duality of perception". This brings about an explosion in the individual's emotional sphere which Vygotsky, following Aristotle, calls catharsis. This concept was used by Aristotle to denote the essence of aesthetic experience as cleansing the soul from affects and giving "harmless" delight. In the 20th century, the term catharsis was borrowed by Freudianism, which put forward the hypothesis that art was a way of living out forbidden desires.

123. Vygotsky, p. 176.

Vygotsky argued with Freud on the problem of the subconscious on more than one occasion. In the early 1920s, when the central task facing young Soviet psychologists was the defence of consciousness against reflexological "aggression", their efforts were concentrated on breathing new life in this concept poisoned by introspectionism. Let us recall that Vygotsky's first programmatic article was called "Consciousness as a Problem of the Psychology of Behaviour". The search for ways of handling that problem did not, however, eliminate the question of the relation of consciousness to unconscious forms of

psychical activity. In particular, Vygotsky undertook an interesting attempt to translate into a new language Freud's distinction between two levels in the structure of the psyche – between Id and Ego.

According to Freud, Id covers impersonal urges which, hidden in the dark psychical under ground, govern the individual's conscious-voluntary acts. According to Vygotsky, Id is no more than the sphere of verbal supra-individual reactions from which the "individual element" emerges. Vygotsky writes,

> The individual element, is constructed as derivative and secondary, on the basis of the social and after its pattern … This is close to the division of the individual into Id and Ego analytically revealed by Sigmund Freud.[124]

In other words, the subconscious is not the psychical forces innate in the organism but the verbal element represented in the individual's social being. Inasmuch as the artistic word engendering aesthetic experiences also lives in the verbal element, the psychology of art deals not only with the conscious but also with the subconscious which, however, is sociocultural rather than biological.[125]

Apart from pansexualism, Freud's weakness lay, in Vygotsky's view, in his failure "to explain the action of artistic form", to identify it as the "most important mechanism of art"[126] rather than as facade. It was the attention to this "mechanism", also unconscious but elucidated through analysis of aesthetic reaction (not through psychoanalysis), that leads to the subconscious in art which is social rather than instinctive-biological, as in Freud. This social subconscious element, affecting the individual, produces catharsis. "The opposition in the structure of artistic form and content that we have identified is the basis of the cathartic action of the aesthetic reaction."[127] Here lies the secret of Vygotsky's central idea of the psychology of art which implies the recognition of "overcoming material by artistic form"; it is precisely in this sense that art is "*a social technique of emotions*".[128]

According to Freud, catharsis is a means of protecting the individual from unbridled pathogenic impulses, a kind of safety valve saving the individual from primitive sexual instincts. Just as the other models of psychoanalysis, Freudianism explains catharsis as an act of behaviour in which the determinant is the past, the dark psychical forces concealed in the depth of the organism, in the boiling "cauldron of emotions", whereas Vygotsky introduced in the concept of catharsis a feature which made this reaction reach out into the future. The direction

124. Vygotsky, *Pedagogich-eskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 96.

125. The idea that the subconscious is language is at present supported by a number of French scientists.

126. Vygotsky, *Pedagogich-eskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 113.

127. Vygotsky, p. 273.

128. Vygotsky, p. 17.

which art gives psychical catharsis determines the strength it will lend the individual's real life. "Rather, art is organisation of our behaviour in the future, an orientation towards the future, a demand which may never be realised but which compels us to strive over and above our life towards that which lies beyond it."[129] There was a time when Vygotsky could not discern any thing "beyond it", beyond life as it was, except the other world. Now art was interpreted as a means of organising real earthly behaviour aspiring towards the social future.

129. Vygotsky, *Pedagogicheskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 322.

During several months Vygotsky, gravely ill, worked hard on the manuscript of *The Psychology of Art*. It was a work of vast scope, full of acute polemics with various trends and schools in philology, aesthetics, psychology, philosophy, and the history of culture. The axis of the work was the concept of aesthetic reaction, in which intersected the lines of thinking coming from Plekhanov, the formal school, Spinoza, Hegel, Darwin, Sherrington, Aristotle, Freud, Pavlov and Kornilov. The concept of reaction that be came the banner under which Kornilov and his associates fought for Marxism in psychology acquired a radically new sense. It took a powerful and creative mind to make this traditional concept (which had long been part of the scientific lexicon) absorb the results of work on the philosophical and psychological problems of art from Aristotle to Marx.

For many years the MS of *The Psychology of Art* lay unpublished. Alexei Leontyev, a close associate of Vygotsky, believes that the reason for that could hardly have been a chance or un favourable circumstances. "It is more likely explained by certain inner motives; because of these, Vygotsky almost never recurred to the subject of art."[130] The MS unfolded a broad panorama of problems which went beyond the scope of analysis of the mechanism of aesthetic reactions. Many elements in this panorama affected Vygotsky's subsequent creative work. However, Vygotsky was not satisfied with his own interpretation of the psychology of art, as far as we can judge from the direction of his further quest. One of his principal errors lay in the fact that in the heat of polemics against those who placed the main emphasis on art as thinking in terms of images (Potebnya), Vygotsky reduced to naught art's cognitive role.

130. Vygotsky, p. 11.

Let us recall that he rejected his interpretation, dating from his youth, of Hamlet as a mystical tragedy. But what did he offer instead?

The Hamlet conundrum was now solved, in accordance with the "antithesis principle", in terms of the conflict between the "plot or content formula" and the "story line formula", or the construction of the text. According to Vygotsky, it would be more correct to ask "why did Shakespeare make Hamlet tarry, rather than why did Hamlet tarry?"[131] Shakespeare slowed down the action, making the story twist and turn, creating a conflict between the story line and the plot, and used other devices imparting duality to perception.

131. Vygotsky, p. 228.

"The plot formula is, Hamlet kills the king to avenge the death of his father. The formula of the story line is, Hamlet does not kill the king … and when he does, it is not done out of revenge."[132]

132. Vygotsky, p. 238.

But was it right to use this simplistic version smacking of the formal school to explain the secret of the operation performed by Shakespeare on human emotions? Vygotsky rightly believed artistic perception to be a form of "joint creativity" requiring intense mental labour on the part of the individual, rather than passive contemplation. But "joint creativity" is not identical to creativity as such. It was the latter that Spinoza had in mind arguing against those who believed that it was impossible to deduce from man's bodily nature "the reasons for architectural buildings, works of art and so on".

Vygotsky's psychology of art was a schema of an aesthetic reaction to a work of art and not the psychology of creating aesthetic values. Still, Vygotsky's view of these values and of the individual's intercourse with them was a step forward; many of his contemporaries carefully studied his ideas as they read the unpublished MS (one of these contemporaries was the famous film director Sergei Eisenstein, who preserved a fair copy of it in his archives). When the MS was published 40 years later, it attract ed a wide readership and was translated into many languages.

The Psychology of Art does not yet contain either the principle of historism to be applied to cultural forms or the principle of development to be applied to individual behaviour. However, the introduction into this bodily behaviour of a regulator in the form of a special objective irritant ("aesthetic sign", text construction) coming from spiritual culture rather than physical nature brought in a new factor, which figured prominently in the system of Vygotsky's ideas. After *The Psychology of Art*, the question of the mutual orientation of the natural and the cultural in the individual's life activity became a key

issue with Vygotsky. Addressing himself from time to time to problems of aesthetic activity in later years, he continued to regard it as a "kind of creation of psychophysiological states". Actors' work, to which Vygotsky devoted a special essay,[133]

Unlike *The Psychology of Art*, that essay stressed the need for a historical approach to the problem of aesthetic experience, since the latter was included from the outset into the variable socio-cultural context. Discussing Diderot's famous "Paradox of the Actor" (should an actor live out the croles he plays emotionally, or should he imitate an ideal supra-personal model without feeling the passions he presents?), Vygotsky proposed to consider that paradox on the basis of "historical laws of different forms and systems of scenic acting", whereas the actor's psychology "expresses the social ideology of his epoch".[134]

Human passions are biological in nature, but they are merely material for "the most diverse and variable forms of the scenic embodiment of artistic images".[135] And these images are impersonal in the sense that, before being embodied in the actor's emotional experience, they "were in the air, in social consciousness".[136] It followed from this that in art, emotional experience was not identical with affect as interpreted by Vygotsky in his original model of the aesthetic reaction. Now the affective tonality of emotional experience functioned as a component of an integral system in which the strength of the artist's (actor's) ego was rooted in his ability to concentrate in the image that was dispersed in the collective "we". The movements of the actor's soul, his idealised emotional experience created by his creative energy "must be regarded as artificial creations – like a novel, a sonata or a statue".[137]

In considering the profession of acting and the qualities determining success in scenic creativity, Vygotsky treated these apparently specialist problems in the light of his emergent psychological theory. The specifics of an actor's emotional experience, he stressed, "must be understood against the background of general psychological laws".[138] Just a few years separated his study in the psychology of acting from *The Psychology of Art*. Simple comparison of these two texts indicates the scope of changes in the work of Vygotsky's thought over such a brief period. The rapid pace of this development may have been the inner motive that compelled Vygotsky to give up the idea of publishing *The Psychology of Art*.[139] The direction of his thinking is indicated

133. Let us note that in the early 1930s, when Vygotsky wrote that essay, the interest in the scientific-psychological substantiation of different systems of acting sharply increased in the theatrical world. In particular, Konstantin Stanislavsky established contacts with Ivan Pavlov, who pointed out that the time was ripe for an in-depth study of the actor's creativity [See *Perepiska I.P. Pavlova* (I.P. Pavlov's Correspondence), Leningrad, Nauka Publishers, 1970, p. 363]. offered a wealth of material in this respect.

134. L. S. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, vol. 6 (Moscow: Pedagogika Publishers, 1982), p. 323.

135. Vygotsky, p. 324.

136. Vygotsky, p. 324.

137. Vygotsky, p. 322.

138. Vygotsky, p. 320.

139. According to some sources, he had already signed a con tract with a publishing house that was to print this work.

by his later works, in which innovative conceptions were worked out about the psychological system as interconnections of functions (including emotions and intellect), the system itself being shown to have a history of its own.

The Crisis In Psychology And Its Historical Meaning

On completing *The Psychology of Art*, Vygotsky presented it as a dissertation. It earned him an academic rank and with it, the right to teach and to conduct independent research at the Institute; because of his state of health, there was no public defence of the dissertation. Although the illness still plagued him, he returned to his laboratory studies in abnormal childhood, and again joined in the heated debate at the Moscow Institute of Psychology about the reform of psychology on the principles of Marxism. Georgy Chelpanov and his followers regarded the polemics about this reform as a local product of Russian life shaken by the Revolution. It would appear from what they say, Vygotsky remarked, that

> everything is unshakeable and quiet in Western psychology just as in 'mineralogy, physics and chemistry', while in this country the Marxists started, all of a sudden, a reform of the science … The true position could not be presented in a more false and distorted way.[140]

The state of world psychology was not in the least bucolic. A real war of ideas was on into which everything that was alive in psychology was drawn. When he took up psychology, Vygotsky, then a teacher in Gomel, vigorously supported the call of a group of participants in the First All-Russia Congress of Students of Behaviour, held in January 1923, to develop a new, Marxist psychology. Joining this group, Vygotsky based his assessment of the state of Soviet psychology on the view that the Revolution solves only those tasks which have been put on the agenda by history. He regarded this as a general law applicable both to social upheavals and to the life of science. He therefore believed a radical reform of psychology to be an imperative of the times dictated by the entire course of its development.

140. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 99.

He insisted that the upheavals in psychology outside Russia, which could no longer be regarded as an integral science like physics of biology, supported that view. When the Moscow Institute of Psychology received a book from the USA entitled *The Psychologies of 1925*, the plural did not strike anyone there as surprising. In those days, translations of books by Western authors into Russian appeared in which each author defended his own system. In his prefaces to these translations Vygotsky presented to the Russian reader the major stars that had arisen on the horizon of Western science – the Austrian Sigmund Freud, the German Kurt Koffka, the American Edward Thorndike.

Vygotsky's prefaces show his attitude to the three most advanced trends in Western psychology of those days – Freudianism, Gestalt psychology, and behaviourism. In 1925, he wrote a preface to a translation of Sigmund Freud's book *Beyond the Pleasure Principle*, and in 1926, to Thorndike's *The Fundamentals of Learning*. In the same year he published his notes on Koffka's article *Introspection and the Method of Psychology*. Vygotsky observed that the upheaval in world psychology, in the fundamental conceptions of the essence, subject-matter and methods of that science was then "especially acute and striking in Russia".[141] In that transitional period, "the old and the outdated was irreparably compromised …, while the new that would be able to replace it has not yet been created".[142]

141. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 176.

142. Vygotsky, p. 176.

In that situation, it was important to single out all elements in world science that would be suitable as building material for future psychology. Vygotsky's general appraisal of Thorndike's book was consonant with his ideas expressed in *Pedagogical Psychology* which appeared in the same year in which he wrote that preface. The merit of Thorndike's position was, in Vygotsky's view, that Thorndike "fully shared the main idea of new psychology – the view of the human psyche and behaviour as a system of the organism's reactions to irritants received from the environment".[143] Although Vygotsky tried to overcome the limitations of Thorndike's positions by pointing out that the human environment was always social, and that the teacher played the role of an organiser of that environment, on the whole he valued Thorndike quite highly for his solution of psychological problems in the spirit of the conditioned reflex theory, in which "the environment as the source of all the irritants falling on the organism

143. Vygotsky, p. 178.

plays the same role in relation to each of us as Pavlov's laboratory does in relation to his dogs".[144]

144. Vygotsky, p. 190.

In the same months when these lines were written, Vygotsky expressed quite a different view, in connection with Koffka's article about introspection: "It is already clear to everyone now that Marxist psychology, on the one hand, and American behaviourism and Russian reflexology, on the other, follow the same part *only up to a certain point*. The need has arisen to distance ourselves from the fellow-travellers and to choose a path of our own."[145] The opposition to behaviourism, Vygotsky wrote, made Gestalt theory "our extremely valuable ally *on a whole number of issues*".[146]

145. Vygotsky, p. 99.

146. Vygotsky, p. 101.

One of the basic questions was the category of consciousness, which behaviourism persistently demanded to set aside as incompatible with science, while Gestalt psychology did not just bring that category back into psychology – it began to consider conscious processes as "parts of larger psychophysiological processes. Here the 'psychical phenomena' of empirical psychology finally lost their exclusive and iso lated significance. The psyche is regarded as a 'phenomenal aspect of behaviour', as its component part".[147] On these grounds, Vygotsky regarded this system, combining consciousness and behaviour under the heading of Gestalt, as "monistic materialism".[148] He believed that Gestalt psychology had solved the task which he and other young Soviet psychologists were striving to solve, that it had put an end to the splitting of the psyche into the subjective world of conscious ness and the objective world of bodily reactions.

147. Vygotsky, p. 101.

148. Vygotsky, p. 101.

Slightly more than a year would pass, and Vygotsky would see that problem through quite different eyes. He would perceive Gestalt psychology as a manifestation of the crisis that corroded psychology, and reject its claims to having laid the foundations of a new general science.

The strong aspect of both behaviourist and Gestaltist theories was determined by the fact that they had undermined the subjectivist dogmas of the psychology of consciousness. Freud's psychoanalysis also dealt a shattering blow to these dogmas. In the first half of the 1920s, its popularity among young Soviet researchers who were then seeking an approach to rebuilding psychology in a way that would reject the old views of consciousness, yet would not let psychology dissolve its

concepts in reflexological ones, was very great.

One of Vygotsky's closest associates, Alexander Luria, also became a fervent admirer of Freud. At one time, working as Learned Secretary of the Psychoanalytical Society in Moscow, he corresponded with Freud and popularised his ideas. Vygotsky also attached great importance to the concept of the subconscious psyche as a special kind of regulator of activity irreducible either to acts of consciousness or to nervous processes. He discussed that concept in his *The Psychology of Art*, analysed above; he pointed out there that "no particular psychological shrewdness was necessary to notice that the proximate causes of the aesthetic effect were concealed in the subconscious and that, only having penetrated into that area, would we be able to treat the problems of art squarely".[149] He stressed at the same time, though, that "the subconscious is not separated from consciousness by a kind of impassable wall";[150] he also criticised the pansexualism of psychoanalysis, and reflected on the perspective of interpreting the subconscious in art as a social rather than biological factor.

149. Vygotsky, *Psikhologiya iskusstva (Psychology of art, In Russian)*, p. 95.

150. Vygotsky, p. 96.

Vygotsky referred to Luria's attempt to combine Freud with Marx as a "monstrous combination".[151] Freud's basic conceptions contradicted dialectical materialism. But Vygotsky stressed that "precisely because the field covered by psychoanalysis is elaborated with unfit tools, it has to be won over to Marxism".[152] He believed that such theories as Freudianism had to be treated in the same way as Marx treated Hegel, separating the methodological truth (dialectics) from factual falsehoods, showing how "Hegel limped towards the truth".[153]

151. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 326.

152. Vygotsky, p. 335.

153. Vygotsky, p. 336.

Science needed books that did not "reveal truths but prompted the search for the truth, even if it was not to be found".[154] Vygotsky included Freud's books in that number. In a preface to one of them, *Beyond the Pleasure Principle*, he pointed out the unconvincingness of its factual data and contradictions with biology arising from the idea of nirvana, regarding at the same time as worthy of attention the notion of death wish – Freud's concept of a special kind of motive of human behaviour that seemed shocking to many at that time. (Freud added that drive to the other universal urge, the sexual one, in the early 1920s under the impact of the horrors of the First World War which carried away millions of human lives.)

154. Vygotsky, p. 336.

Freud's new conception, wrote Vygotsky, answered the need of biol-

ogy to master the idea of death – just as mathematics in the past came to feel the need for the concept of negative number. It was impossible to imagine that death was not in some way represented in the nature of life, that it had no meaning or that it had only negative meaning. For Vygotsky, who suffered from a grave form of tuberculosis and therefore often found himself in the "borderline situation" between life and death, the problem raised by Freud was not just an abstract theoretical issue but also an intimate and personal one.

In 1926, Vygotsky decided to write "A Review of Present-day Psychological Trends in the West". At the time, he was completely absorbed in the everyday affairs of the laboratory for the study of abnormal childhood (which he hoped to transform into a special Institute), and this distracted him from work on the review. But when yet another dangerous attack of tuberculosis forced him again into a hospital, he was able to devote himself fully to a theoretical analysis of the situation in world science. As Alexander Luria told the present author, the illness took such a bad turn that the doctors believed he was a terminal case. Vygotsky himself once whispered to Luria that he only had a few months to live. In this critical state, he feverishly worked on the manuscript of what was to become his principal methodological work. He called it "The Historical Meaning of the Psychological Crisis".

Psychology found itself in a critical situation almost from its birth as an independent science. The point was that, unlike other disciplines, psychology was a blanket term for a great many schools each of which spoke a language of its own unacceptable to other schools.

Vygotsky reminded his readers that as early as 1874, one of the fathers of new psychology, Franz Brentano, called for establishing one psychology instead of many. The Russian scholar Nikolai Lange wrote with bitterness of the situation at the beginning of the century: "The psychologist of these days is like Priam sitting among the ruins of Troy".

Subsequent events made the picture even more dramatic and gloomy. The number of psychologies increased, and the intention of the young Soviet psychologists to construct a new science on the principles of Marxism might merely result in the establishment of yet another school among many. The situation of crisis was there for all to

see, theories and systems opposing one another in a "war of all against all". "The crisis divided psychology into two camps. The frontier between these camps always lies between the author of a given view and the rest of the world. But, as Lotze put it, even a worm squashed nearly to death opposes its reflection to the rest of the world,"[155] Vygotsky remarked ironically.

155. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 370.

He believed that one must not be content with estimating the number of schools and describing the war "of all against all". The causes of the crisis had to be explained, and a forecast formulated. This in its turn assumes an orientation of analysis which may lead to a theory of the crisis. Just as any other theory, it will only gain strength if it relies on facts. The empirical facts that have to be generalised in this case are obviously of a very special kind: they are the phenomena of the life of science as a system, as a kind of organism, that is to say, they are very special kind of facts indeed.

> We shall proceed from an analysis of facts, although they are of a very high degree of generality and abstraction – namely, a given psychological system or type of system, the tendencies and fates of different theories, different cognitive devices, scientific classifications and schema ta, etc. Here, we consider them as facts in the history of science, rather than their abstract logical, purely philosophical aspects.[156]

156. Vygotsky, p. 296.

The object of research is thus the products of the work of thought exploring reality rather than the reality itself, that is to say, the theories, postulates, methods, concepts, and so on, constructed by thought. Reality, whether physical or psychical, is subject to one set of laws, and the work of thought, to another. Thought must look back at its own structure and explain what it is, explain its nature, motive forces and boundaries. That was an old philosophical question.

The fundamental novelty of Vygotsky's approach consisted in the following. First, he turned to the study and critique of scientific reason or, more concretely, psychological reason, and not of human reason in general. Second, he proceeded from the firm conviction that there was no other way of grasping the events of science, including the crises of science, except through tracing its true history. Implementing these ideas, Vygotsky did some pioneering research in a very special field – the methodology of a concrete science as a theory of the organisation of psychological knowledge, the modes of its construction, its tools and forms. The quality of these tools, determining the effective ness of research practice, depends on their origin, their "genetic programme", so that methodology without history is empty.

The essence of the intellectual apparatus with which the scientist works everyday can only be grasped through special reflection. That reflection is the task of methodological analysis. Without it, Vygotsky insisted, the processes taking place in psychology, including its disintegration into hostile schools, could not be explained. Without it, it would be impossible to find a way out of the crisis and to deal with the main task which Soviet psychologists strove to solve – guiding their science towards a Marxist orientation. He clearly saw that, along with general philosophical postulates about the nature of the psyche, it was necessary to have a basis in the form of a system of ideas concerning the structure of knowledge about that nature and the historical logic of the transformation of that knowledge. However revolutionary the proposed Marxist psychology might be, it can only appear as a fruit of world-historical development of knowledge which has its laws and forms as yet entirely unexplored.

After reading Hegel in his youth, Vygotsky formed a conception about the historical Logos. He now transformed that conception into a key to the evolution of psychological ideas. Unlike speculative dialecticians, he firmly followed the method of historical reconstruction, of careful restoration of all that was recorded in the chronicle of psychology. The study of that chronicle demanded immense effort. Vygotsky had an amazing ability to orient himself in the flow of literature, singling out that which had the greatest significance for understanding the meaning of the events occurring in science. Of course, he had reflected on a great many of these things before taking up the job. Still, it is amazing that he should have analysed in those few months of grave illness so many sources which he had never tackled before.

His intercourse with any text was always in the nature of a dialogue, a disputation or polemics. This time he began an intense argument with all the scientists who determined the image of psychology both in Russia and in the West. We have seen what Vygotsky's attitude was, at the beginning, towards the leading trends in Western psychology – behaviourism, Freudianism, and Gestalt psychology. In those days, he was guided by the need to find out which postulates and facts could stand the strength test as build ing materials for new psychology. Now he approached these postulates and facts from another side. He was interested in their methodological function in the history of psycholog-

ical knowledge, their genesis and claims arising from the natural course of that history. They were analysed in the light of the task which had made Vygotsky turn from the study of psychical regulation of behaviour (verbal, emotional, and other types of reactions) to reflection on the methodology, or mode of organisation of this study. The task was to elucidate the ways of constructing a unitary psychological science or, in Vygotsky's words, of a "general science" instead of the numerous psychologies that appeared then on the historical arena.

General psychology was, in Vygotsky's view, a theory of "the ultimate foundations, general principles and problems of the given area of knowledge".[157] Dealing with concepts of "the highest order"[158], general psychology was called upon to explain "what are the most general elements in all the phenomena studied by psychology; what makes extremely diverse facts, ranging from salivation in a dog to enjoyment of a tragedy, psychological facts; what are the elements that both the lunatic's ravings and the mathematician's rigorous calculations have in common."[159]

In the West, the problem of general psychology as the highest discipline uniting different branches and data of psychology was raised by the Swiss scholar Ludwig Binswanger. Binswanger's book *Introduction into the Problems of General Psychology*,[160] which came Vygotsky's way when he was at the hospital, touched off a most acute polemics against attempts to construct a theory of the science conceived as a formal-logical structure of knowledge, the development of that knowledge being completely ignored. In effect, Binswanger reproduced Kant's old formula that reason dictates its laws to reality, the reality in this case being psychical reality. Binswanger envisaged general psychology as the study of the principal concepts of that science, of its logical structures, regardless of the reality they represent and of the historical process. Binswanger's idealism went hand in hand with an antihistorism raised to a principle.

This was the basis of his conception of general psychology as a special field which had no basis in anything except itself and which prescribed the rules for the construction of theories and critique of concepts.

Rejecting Binswanger's view that critique of concepts must constitute a special logico-methodological branch, Vygotsky proceeded on

157. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 310.

158. Since Aristotle, such concepts have been known as categories. It follows from this that the main content of general psychology must be analysis of categories, according to Vygotsky.

159. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 298.

160. L. Binswanger, *Einfuhrung in die Probleme der allgemeinen Psychologie* (Berlin, 1922).

the assumption that concepts are continually criticised in practice, in the scholar's everyday work, through correlation with actual facts, with empirical data. Each step forward implies both critique of concepts in terms of facts and critique of facts in terms of concepts. Vygotsky believed that every discovery in science is at the same time an act of conceptual critique. Thus, having discovered a new fact, that of conditioned reflex salivation, with the aid of an old concept, Ivan Pavlov thereby subjected to criticism this concept of which an inalienable feature was believed to be an immutable rather than temporal connection between irritant and reaction. At the same time the discovery of the new concept, of conditioned reflex permitted a new interpretation, quite different from the old one, of familiar facts ("the food makes the mouth water"), imparting to them the status of scientific facts through strictly causal explanation.

This interaction of concept and fact, of theoretical and empirical components of knowledge, constantly takes place in science. At a higher level, the concepts of the special disciplines (e.g., developmental psychology, ethnic psychology, etc.) become material for further critique and processing. In the process, the most general abstractions are created, which are at the same time the most meaningful ones, inasmuch as they "condense" reality. General psychology can also be termed methodology – a theory of the paths and methods of concrete scientific knowledge.

Through conceptualisation as a special mental operation, a real fact becomes a scientific one. What can be said, for instance, of the fact of the Earth's revolving round the Sun? "To become a scientific fact, the real one had to become its own, opposite in man's thought, although the Earth's revolving round the Sun was established through observation of the Sun revolving round the Earth."[161] The facts of psychology, too, are the real facts observed in the clinic, in the laboratory or kindergarten, and raised to the level of scientific ones. The tools for constructing these scientific facts are concepts. The question of how they are built must be answered by methodology, or general science (general pscyhology, in this case), as distinct from the separate branches.

General science, as a discipline operating with the most general concepts or categories, determines the subject-matter and method of

161. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 314.

any forms of scientific research, whatever objects it may comprise – the psyche of an adult or a child, a neurotic or a healthy person, their consciousness, their behaviour, their subconscious.

The methodology of a concrete science is shaped by philosophy, but it has a status of its own determined by the specific domain of that science, the historical unfolding of its categorial structures. On the whole, the picture of relations between different levels of scientific research was presented by Vygotsky as a dialectically interrelated hierarchy. The highest level is represented by philosophy. Underlying it is general psychology – the methodology of a special discipline. At the next level, its resources nourish the separate psychological branches – developmental psychology, the psychology of labour, etc. The latter, in their turn, directly adjoin the practice of shaping man, the various forms of education and training, development of skills, organisation of activity, treatment, etc.

The movement is not only "from top to bottom" – from philosophy through the general science to separate disciplines and practice – but also in the opposite direction, "from bottom to top", from practice that is generalised and integrated in these branches (zoopsychology, medical psychology, pedagogical psychology, etc.) to general psychology, whose categorial apparatus sums up their "sovereignties", to use a phrase of Vygotsky's.

The decisive factor, the end-all and the be-all of the whole process, is practice. It is part and parcel of psychological cognition, not just a verification tool. Scientific research itself was interpreted by Vygotsky as a special form of practical activity. It is derivative from other modes of man's influencing nature and other men, but at the same time it can lend this "scientified" impact a much greater effectiveness than mere common sense.

Vygotsky thought of this methodological construction as basically historical. History, however, deals with unique events, while methodology covers stable invariant forms and modes of analysis. If that is the case, how is methodology possible on a historical basis? Vygotsky replied to this by pointing out that regularity and recurrence are inherent in the process of cognition itself, in its historical being. General formulas from which events are deducible and predictable are extracted from the objective logic of the process concealed behind the

uniqueness of these events recorded in the memory of science.

Vygotsky stressed,

> The laws of the successive development of ideas, the emergence and demise of concepts, even replacement of one classification by another, and so on – all these facts can be scientifically explained on the basis of the connection of this science
>
> (1) with the general socio-cultural substratum of the epoch;
> (2) with the general conditions and laws of scientific knowledge;
> (3) with the objective requirements imposed on scientific cognition by the nature of the phenomena under study at the given stage of their exploration, i.e., in the final analysis, in connection with the requirements of the objective reality studied by the given science.[162]

The historism of Vygotsky's views of science was inseparably linked with the systems principle. He invariably regarded psychology as an intrinsically interconnected system. Each element of the system, whether fact or term, method or theoretical construct, receives its meaning from the whole which goes through a series of phases replacing one another with an inevitability reminding one of the transition from one historical socio-economic formation to another.

The critical phase involves all the elements of science as a whole, including its terms, with the concepts underlying them. Vygotsky attached great significance to the problem of language in the methodological analysis of science. "Language", he wrote, "reveals what might be called molecular changes which science under goes; it reflects unformed inner processes – the tendencies of development, reform and growth."[163] The language of science is an instrument of analysis, a tool of thinking. Only he who does research and discovers the new in science can develop language. The discovery of new facts and the emergence of new interpretations of facts require new terms. Thus what we have here is not creation of new words to denote familiar phenomena, the labelling of readymade commodities, as it were, but the birth of words in the process of scientific creativity.

One of the expressions of the crisis in psychology was the fact that its language was patchy, imprecise and mythological. No science, however, can develop normally unless it evolves a language of its own. Physics, chemistry, and especially mathematics show, Vygotsky pointed out, how great the role of language is in the development and perfection of a science. "The psychological language of these days

162. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 302.

163. Vygotsky, p. 357.

is, first and foremost, insufficiently terminological; that means that psychology does not yet have a language of its *own*."[164]

164. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 356.

The lexicon of psychology is a conglomeration of three groups of words:

(1) words of everyday language, which cannot develop into the language of science as its words are vague, imprecise, and polysemantic;
(2) words of the philosophical language; these are unsuitable for psychology, first, because they are polysemantic, the polysemy resulting from the struggle among philosophical schools, and second, because these words, transferred from philosophy into psychology, lose their association with their former meaning;
(3) words borrowed from the natural sciences and used in a figurative sense (e.g., energy, force, intensity, etc.).

Scientific terms borrowed from other sciences conceal unscientific concepts. Language is not neutral or passive in relation to science; it is its active component, a direct participant in all the events occurring in science. Terms in the sense outlined above are the mind's principal tool in the process of research. Manipulation of terms is a creative operation leading to the discovery of new, heretofore unknown strata in psychical reality.

Vygotsky correlated the problem of working on terms with the use of experimental devices, paying attention to what he called "the philosophy of the device". Since psychology is an experimental science, it uses various apparatuses, devices and instruments functioning as its tools in the solution of its tasks. But the development of experimental techniques in psychology is fraught with the danger of making a fetish of them, and it can give rise to hopes that application of experimental devices can by itself discover new scientific facts. This enthusiasm for apparatus techniques unsupported by theoretical premises or the awareness that instruments can play only an auxiliary role inflicts great damage on scientific research, giving rise, as Vygotsky put it, to "a medical attendant's attitude to science". He used that expression to refer to the gap between the technical function of research (servicing apparatuses, according to a familiar pattern) and scientific thinking. This gap had a deleterious effect on thought itself, since the focus of research work was shifted from operating with terms to thoughtless manipulation of technical devices. As a result, words that are not filled with new content begin to run dry, ceasing to play their intrinsic role of the most important instruments of thinking. We see that Vygotsky's

analysis of the methodological problems of scientific research did not rest on speculative constructions but on "molecular" work with words, concepts, devices and scientific facts which goes on daily in laboratory research.

Vygotsky included all these subjects in the domain of the "general science" the need for which in psychology was postulated, as we have described, by Binswanger. But the polarity of the philosophical positions of Binswanger and Vygotsky resulted in different conceptions of the principles of constructing this branch of psychology; they also differed on each of the concrete issues in this area.

In the "general science", or methodology as interpreted by Binswanger, concept was alienated from fact, while fact itself was taken for the purely empirically given lying beyond concept.

Rejecting this approach, Vygotsky pointed out that designation of any fact by itself implied bringing it under the heading of some category and thus some mental processing of it. "Any word," Vygotsky stressed, "is a theory ... as was clearly shown by Potebnya."[165] Vygotsky relied on the Marxist theory of knowledge, the interpretation of concepts as "models of reality."[166]

165. Vygotsky, p. 313.

166. Vygotsky, p. 311.

In this connection, one must note the following. Whenever Vygotsky's acceptance of Marxism is discussed, it is pointed out that he relied on Marxist ideas on the essence of the psyche and of the laws of its development. However, this does not exhaust the influence of Marxism on Vygotsky. He also found in Marxism the notion of the means which human reason has at its disposal as it strives to understand reality, including psychical reality. The problem of the means, methods and ways of cognition of reality belongs to the class of methodological problems.

Vygotsky was the first Soviet psychologist to raise this problem, and he advanced farther in its solution than anyone else not only in his time but also in later years. From philosophical heights he passed on to the level of analysis of events in a concrete science. A general law extracted from historical experience was described as the raising of a particular discovery to the rank of a universal descriptive principle. Thus, psychoanalysis established the fact of sub conscious conditioning of certain phenomena and of covert sexuality of certain forms that had not been previously regarded as erotic. Receiving the "sanction

of truth" in the practice of psychotherapy, that fact was transferred to various areas of psychology – developmental psychology, ethnic psychology, the psychology of art, etc.[167] Gestalt psychology traversed a similar path. It emerged out of facts established in the perception of form, but was soon extended to cover the behaviour of animals, child development, and mental disorders. In this way, discoveries in special fields develop into explanatory principles of all psychical phenomena and even of all the phenomena of being. But, as Vygoysky put it, "to strive to explain everything means to explain nothing".[168]

Vygotsky believed that the drive towards "globalism", towards covering all the problem fields of psychology, expressed in transmuted form the need for a "general science", a need that had matured historically. It acted objectively and inevitably, subordinating the intellectual efforts of separate researchers and scientific groups. It was just as impossible to explain their claims in terms of personal error or ill will as to explain the French Revolution in terms of the dissoluteness of French kings.

The objective logic of the development of knowledge necessitated the establishment of general psychology as the methodology of that science. Psychology was in travail. It laboured to produce a unified science. Given the pressing need for such a general science, its absence resulted in various schools rushing in to fill the vacuum, laying claims to the entire domain of psychical phenomena. That was what determined the external picture of the crisis as an endless strife among schools. But the topicality and extreme urgency of methodological reflection in psychology as the principal task of the general science were determined not only by the inner dynamics of knowledge, the logic of development of psychological problems. The movement in that direction was also powerfully stimulated by social practice.

Vygotsky's treatise about the crisis began as follows:

> Recently, voices have been increasingly raised in favour of general psychology as a problem of prime importance. Remarkably, this opinion does not come from philosophers, for whom generalisation is a professional habit; not even from theoretical psychologists, but from practicing psychologists working in the specialist areas of applied psychology, from psychiatrists and experts in psychotechnics, representing the most precise and concrete part of our science.[169]

Traditional psychology was inherently "academic", ignoring the

167. Vygotsky then traced further expansion of the basic facts and concepts of psychoanalysis, showing how it passed beyond the boundaries of psychology, spreading to other sciences and becoming a kind of world-view: "Communism and totem, the church and the work of Dostoyevsky, occultism and advertising, myth and the inventions of Leonardo da Vinci – all this is nothing but sex, disguised and masked." (*Sobraniye sochinenii (Collected Works In Russian)* vol. 1., p. 307)

168. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 309.

169. Vygotsky, p. 292.

thousand-year-long experience in controlling human consciousness accumulated by factories and works, the schools, the church, and the military. Meanwhile, society forced psychology beyond purely theoretical and laboratory explorations to become an applied science as well, to deal with selection and preparation of people for training in a definite occupation, with organisation of labour, treatment, etc.

The development of applied psychology prompted by social practice was, according to Vygotsky, "the main motive force of the crisis".

> The leading role in the development of our science is now played by applied psychology … Here, psychology came, *for the first time*, in contact with highly organised practice industrial, educational, political, and military – through psychotechnics, psychiatry, develop mental psychology, criminal psychology. This contact makes psychology rebuild its principles in a way that will enable them to stand the most rigorous test of practice … Practice will play the same role in the development of psychology as medicine has for anatomy and physiology and technology for the physical sciences.[170]

170. Vygotsky, p. 387.

In response to the social challenge, an area of research appeared which came to be known as psychotechnics – application of psychology in the economy, industry included. A scientific organisation of production and labour called for a knowledge of the human nervous-psychical potential and the possibility of its effective exploitation. In the West, psychology turned to these problems under pressure from the capitalist economy. But the consequences of this development had a significance for psychology that went far beyond the goals towards which the firms and trusts subsidised the new trend.

The achievements of psychologists were tested by practice that was ruthless towards theoretical constructs divorced from reality. It was practice that became one of the principal forces that destroyed the conception of psychology which reduced the entire wealth of the psychical world to the subject's self-account of things revealed to him by "inner vision". It could not be an instrument of mastering that world. It was undermined on all sides by new trends aspiring to explain scientifically the individual's earthly life, the laws of the individual's behaviour in a real environment – such trends as reflexology, behaviourism, psychoanalysis, the theory of the dependence of character on body structure (Ernst Kretschmer), and others. Historical experience showed, though, that not one of them could become general psychology. They could not meet the challenge of the logic of

the development of knowledge, a challenge voiced by social practice. The historical mission of psychologists whose lodestar was Marxism was to meet that challenge. Vygotsky drew the following principal conclusion from his analysis of the critical situation in psychology: "The creation of general psychology would be the only justifiable application of Marxism to psychology".[171]

171. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 419.

One would have to immerse oneself into the discussions in Soviet science on the role of Marxism in psychology in order to appreciate the depth and innovative spirit of that conclusion. The adherents of the transformation of psychology in the spirit of Marxism restricted themselves to the interpretation of the psyche as a property of highly organised matter, the principle that matter is primary and consciousness secondary, and the idea of the social essence of personality, whereas Vygotsky strove to prove that the Marxist theory of the modes of construction and organisation of scientific knowledge was just as important for the reform of psychology.

Relying on that theory, he sharply rejected the way in which universal principles were rammed against particular truths, when scientists knew "only one predicate applicable to the whole world".[172] He stressed that dialectics as a universal theory must not be confused with the dialectics of psychology whose task was "to reveal the essence of the given domain, the laws of change of phenomena in that domain, their qualitative and quantitative characteristics, their causality, and to create categories and concepts inherent in them".[173]

172. Vygotsky, p. 418.

173. Vygotsky, p. 429.

The dialectics of psychology as a science is rooted in the age-old work of thought which cannot be cancelled, because knowledge grows organically. "Do the builders of the future begin from scratch? Don't they complete and inherit all that is true in human experience? Don't they have allies and ancestors in the past?"[174] These were his arguments against the introduction of the term "Marxist psychology", which became the catchphrase for Kornilov and his supporters. Some foreign researchers, e.g. those of the Adler school, also strove to combine psychology with Marxism.

174. Vygotsky, p. 429.

Vygotsky recalled how he had once been struck by a question asked by a Western scholar. Vygotsky did not indicate where the meeting he referred to took place, but, considering that it was mentioned in a 1929 MS, it must have been during his trip to London in 1925. The question was,

> What psychology do you study in Russia? Your being Marxists does not yet explain what sort of psychologists you are. Knowing the popularity of Freud in Russia, I first thought of the Adlerians: they are also Marxists, but you have quite a different psychology, haven't you? We are Social-Democrats and Marxists too, but we are also Darwinists and Copernicans.[175]

175. Vygotsky, p. 434.

That conversation gave Vygotsky food for serious thought – and not only because it brought him up against attempts to combine Marx with various psychological theories.

Vygotsky faced a much more important task – that of delimiting two levels in the study and explanation of the psyche, the philosophical and the concrete scientific. He realised the fundamental significance of this delimitation very acutely, and this made fruitful his entire subsequent work on analysing the methodological problems of psychology. Just as the theory of Darwin forms part of biology, and that of Copernicus, a part of astronomy, there must be a concrete theory to determine the inner structure of psychology. "What psychology do you study in Russia?" This question was his constant concern. Unlike Kornilov, he realised that to say that scientists in Russia studied Marxist psychology would be to evade the issue. He also had another argument against the expression "Marxist psychology". "A Marxist historian would never say, 'A Marxist history of Russia'. He would assume that the thing was clear of itself. To him, 'Marxist' is synonymous with 'true or scientific'."[176] In a similar way, the concept of Marxist psychology "coincided with that of scientific psychology in general, wherever and by whomsoever it might be developed".[177]

176. Vygotsky, p. 434.

177. Vygotsky, p. 435.

In those critical years, various epithets were added to the ancient word "psychology" in a bid to delimit the new content which filled that term right before the scientists' eyes. Psychology was called objective, scientific, Marxist, dialectical, reactological, the theory of behaviour, etc. Vygotsky himself initially referred to the "psychology of behaviour" as a trend distinctly different both from empirical psychology and from reflexology. Very soon, however, he gave up that phrase, as it was taken up by behaviourists. He also believed it was wrong to call psychology "objective", since subjective phenomena were also part and parcel of its subject-matter. The epithet "scientific" was superfluous, too, for "psychology" was "the name of a *science* and not of a play or film."[178]

178. Vygotsky, p. 435.

Rejecting all these attempts to delimit new psychology from former systems by using various epithets, Vygotsky proposed to retain its traditional name "on which the dust of centuries has settled", that is to say, to continue to call that science psychology. The fact that it now absorbed new content was a natural indication of progress, for progress assumed from the outset the unity of traditions and innovations.

> … We accept the name of our science with all the traces of centuries-old errors deposited in it, as a living indication of ways of overcoming them, as scars from old wounds, as a living testimonial of the truth being born in an incredibly difficult struggle with falsehood.[179]

Vygotsky's conclusions were radically different from the ideas about the application of Marxist principles in psychology accepted by Konstantin Kornilov and his closest associates. Kornilov saw the universal laws of dialectics, such as transition of quantity into quality, the universal connection of all phenomena, the Hegelian triad (thesis-antithesis-synthesis), and others, as instruments for explaining concrete scientific facts: perception of colour, memorising words, etc. He did not distinguish two levels in methodology – philosophical and concrete scientific. There was no place for the latter level in his system at all.

179. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 429.

As for Vygotsky, he appealed to Marx, to the logic of *Capital*. In that work, Marx formulated the laws of the capitalist formation, and in doing so, he operated with categories that reflected its specificity – the categories of value, commodity, rent, etc. Psychology needs its own *Capital*, Vygotsky stressed; it needs a system of categories commensurate in scale to the reality it studies. "One cannot measure a man's height in miles, we need inches to do that." The "miles" were the categories of dialectics, the "inches", the psychological categories. He who ignored concrete scientific methodology, turning directly to philosophical methodology, inevitably "leaped over the horse wishing to mount it".[180]

180. Vygotsky, p. 418.

Now, how was general psychology to be developed? One might assume that the more advanced sciences like physics or biology could show what the future of psychology might be. Time was when neither general physics nor general biology existed, only the separate special disciplines like optics, mechanics, etc., or botany, zoology, etc.; then the categories and principles emerged which, generalising the achievements of the special disciplines, covered the whole of the vast sphere of inorganic nature (in physics) and organic nature (in biology).

It would appear that general psychology would take shape in a

similar way, as a synthesis of knowledge dispersed in different areas of research, such as zoopsychology, pathopsychology, developmental psychology, psychotechnics, etc. Vygotsky rejected that prognosis. The founding of general psychology, he wrote, was a matter of break-up rather than of harmony, a matter of war, not peaceful unification.

He thus saw the problem of overcoming the crisis in a way that was different from the Western authors. In those same months when Vygotsky, bed-ridden, worked on his treatise, Karl Bühler in Vienna wrote *The Crisis of Psychology*. Its first edition appeared in 1927. The leitmotif of Bühler's book was simple. There were three main trends: the introspective psychology of consciousness engaged in analysis of the subjective world; behaviourism, studying objective behaviour; and "understanding (*verstehende*) psychology", of which the subject matter was the individual's spiritual life embodied in cultural values. Each school was right, in its own way, and at the same time it suffered from one-sidedness.

Bühler believed that their unification would restore the integral nature of psychology. Vygotsky's position was fundamentally different: complete rupture was his motto. He strove to prove that the existence of many psychologies was a fiction. (Let us recall here the book *The Psychologies of 1925*.) Only two psychologies existed, and these were not different directions within a single science but different sciences covered by a common name. "*There are two psychologies*, the natural-scientific and materialist one, and the spiritualistic one; this proposition expresses the gist of the crisis better than the proposition that there are many psychologies."[181] Two fundamentally different systems of knowledge were spliced in the crisis-ridden organism of psychology. "Only the surgeon's knife can save the situation... Our only concern is the line of the rupture ..."[182]

181. Vygotsky, p. 381.

182. Vygotsky, p. 411.

The line of the rupture was clearly drawn by Vygotsky the moment he stepped on the soil of natural-scientific psychology. He began by drawing that line between the theory of conditioned reflexes, on the one hand, and empirical psychology of the Chelpanov type, on the other. Realising that reflexology did not have the potential to explain the social and historical regulation of the human psyche, he began searching in a fundamentally new direction which, however, was conceived as persistently implementing the principles of natural-

scientific knowledge – causality (determinism) and the objective method.

He believed that the main task was to implant these principles in the general theory of the psychical organisation of man as it took shape in the socio-cultural environment. Here, the most dangerous opponent of scientific study of consciousness was, he believed, the "psychology of the mind" of Wilhelm Dilthey, who set up a school known as "understanding (*verstehende*) psychology" opposed to experimental psychology.

Only recently had Vygotsky accused reflexology of dualism: it separated behaviour from consciousness. Now he faced another variety of dualism: consciousness in its specifically human historico-cultural forms was separated from the real earthly relations of man with object reality. True, the picture of consciousness here was different from that of old empirical psychology, which saw consciousness as a kind of magic lantern where sensations, perceptions, ideas, etc. shimmered. Opposing this view, Dilthey attached the greatest significance to the psychic experiences following from the individual's links with the spiritual values of culture, which, how ever, were believed to be fundamentally inaccessible to natural-scientific causal analysis.

The "psychology of the mind" was thus, in Vygotsky's opinion, yet another variety of the construction of knowledge unacceptable to scientific psychology. Dilthey opposed the human sciences to the natural ones, splitting psychology into different disciplines one of which correlated psychical phenomena with the body, the other with the spirit, culture, and history, whereas Vygotsky insisted that the potential of psychology was determined by the same principles which ensured the achievements of natural science, above all by the principle of objective causal relations between the phenomena under study.

Psychology could only invade practice and control it if it became a natural science in the sense of studying "nature", the reality. But, while remaining such, it must also become a historical science. Its task was to reveal, on the basis of general scientific explanatory principles rather than intuitive understanding, on the basis of causality, the objective method, etc., the laws controlling man's psychical life in the world of history and culture, testing its schemata in practice. Practice and methodology, or general psychology, were the stones which the

builders of psychological science had disdained and which must now become its cornerstones. That was, according to Vygotsky, the main lesson and the historical significance of the psychological crisis.

Vygotsky's work discussed above was not published. There are grounds to believe that it was not even finished. Moreover, for a long time it was believed to have been lost. Analysis of this work points out how great were Vygotsky's achievements in the domain of concrete science. Vygotsky the philosopher of science, its theoretician and historian, spoke up before Vygotsky the researcher in the higher nervous functions and author of the cultural-historical theory did. Was his voice heard, or did the ideas expressed in the MS remain "unemployed"? History knows certain precedents, cases in which ideas that were ahead of their times were written down on paper but made no impact on the processes in science. Leonardo da Vinci's unpublished notebooks and Diderot's refutation of Helvetius's treatise *On Man* are of interest as documents of great prognostic value, but they made no impact on the ideological atmosphere of their epoch. This would hardly be true, though, of Vygotsky's MS. He was surrounded by his colleagues in the struggle for a new psychology, and by numerous disciples. There can be little doubt that in his constant communication with them he developed the ideas that we find in the unpublished materials.

Vygotsky's MS on the crisis of psychology is a scientific study in science itself. Without fear of exaggeration we may say that Vygotsky was the first psychologist in the world to have under taken a historically oriented analysis of the problems of logic and methodology of cognition, and this analysis became a necessary premise of his entire subsequent work. He did not start out from a priori ideas on how psychology as a science was possible, what ailed it, and so on, but from its real history, which he saw as a kind of laboratory or giant experimental test rig on which hypotheses, theories and schools were tried. Before he took up experimental psychology, he studied the experiences gained in that laboratory. Before making child speech and thinking the object of his studies, he considered the fruit of men's mental activity in its highest form – scientific knowledge.

He was guided by the well-known Marxist proposition that highly organised forms provide a key to elementary ones. He said, for instance,

that the word is an "embryo of science", only he did not study that embryo form but the function of a scientific term – the word that carries the greatest semantic load. Later, the scope of his analysis of conceptual thinking changed. He passed from the way in which the concepts of science were transformed to the explanation of development of concepts in children. Comparison of scientific concepts with labour tools worn by use was followed by Vygotsky's instrumental psychology, in which cultural signs and their meanings were regarded as a kind of tools with which the individual constructed his psychical world.

The fundamental problems of man's cognitive activity – the relationship between theory and empirical data, between word and concept, between operating with concept as a "tool" and the changes in its object content in the process, between real practical action and its intellectual correlate – these were all first considered in the context of the development of scientific knowledge. Only after these problems were tested against the background of this special culture did Vygotsky turn from historical experiences to psychological ones. He saw the child as a little researcher acting according to the same principles as an adult one.

In Search Of Traps For The Psyche

The study of the crisis of psychology was to Vygotsky a preamble to drawing up a map that would show him the way to new heights. To reach them, he needed instruments, tools, and methods. As we know, in his reflections on how general psychology was to be built Vygotsky studied Marx's method. "I don't want to learn what the psyche is for nothing, by sewing together a couple of quotations; I want to study *the whole* of Marx's method to see how science is built, how the study of the psyche is to be approached."[183] He called that method analytical. "The whole of *Capital* is based on that method; Marx analyses the 'cell' of bourgeois society – the form of commodity value … In this cell, he reads the structures of the whole system, and of all the economic formations".[184] A combination of phenomena is created through mental abstraction which enables the researcher to trace the action of the law in its purest form. With the aid of the analytical method, Marx discovered the law of the development of social formations. But the method he used had a great heuristic potential in other sciences, too – physical and biological.

183. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 421.

184. Vygotsky, p. 407.

Vygotsky cited a passage from Engels about Carnot who invented an ideal steam engine, proving that heat, could be transformed into mechanical motion. Some 100,000 steam engines would not prove it more convincingly than one engine.

Analysis singles out the typical elements in a multitude of corresponding phenomena and uncovers their mechanism, the general principle of their organisation. To illustrate that proposition, Vygotsky

drew examples from the theories of nervous activity. Conditioned reflex, the dominant, the struggle over the motor field – all these concepts took shape through the application of the analytical method. Though formed in experiments with concrete objects (dogs, frogs, cats), these concepts embodied the laws of the work of the nervous system in any organism.

In effect, Vygotsky also followed the analytical method in his first attempts to identify the "cell" of the psychology of behaviour – the afore-mentioned concepts of "circular verbal reflex" as the first element of human conscious ness and aesthetic reaction as the principal form of the subject's communication with a work of art. Both these "cells" were built on the natural-scientific model and at the same time led scientific thought beyond biology – into the world of culture and social being. In his MS on the crisis of psychology Vygotsky listed the following items as illustrations of the application of the analytical method: "machine, joke, lyrical poem, mnemonics, military command". He called them "traps for nature",[185] stressing thereby that by using these particular phenomena as models one could "trap" the action of a definite law.

185. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 406.

Sadi Carnot's ideal engine "trapped" a general physical law. The other "traps" had to do with psychological laws. One of the "traps", a lyrical poem, was identified by Vygotsky himself. "Every lyrical poem," he remarked, "is an experiment"[186] in the sense that analysis of its structure can help to reconstruct the mechanism of the aesthetic reaction.

186. Vygotsky, p. 406.

But what about the other analytical models – jokes, mnemonics, and military commands, to which he referred? Despite their seemingly haphazard arrangement, these items were not included in the same series by chance at all. Vygotsky found them in the available psychological literature. Freud devoted a special study to analysis of jokes: *Jokes and Their Relation to the Unconscious*. For Freud, jokes were a model that was instrumental in the study of the relations between the individual's unconscious drives and humour. Mnemonics, or a system of artificial methods to aid memory, was studied by psychologists, such as Alfred Binet, interested in memory processes.

To Pierre Janet, military commands offered a schema for constructing man's socially determined movements. It was no accident, of course,

that Vygotsky placed a lyrical poem, a joke, a military command and mnemonics in the same sequence as a technical device (machine).

Let us recall his definition of art as a social technique for the emotions, or his view that a product of art is similar to a machine or a scientific theory. Constructed by man for man, these creations, on the one hand, have a structure independent of the individual, and on the other, they organise his external and internal reactions. The reactions included emotional (aesthetic feelings), cognitive (memory in mnemonics) and behavioural (the carrying out of military orders). In all cases the "traps" introduced by Vygotsky were intended to establish psychological laws. They were models of a special kind. They integrated (a) the social, (b) the psychical in the sense of that which is experienced by the subject, and (c) the bodily.

The dependence of the individual psyche on social relations and forms had long intrigued scientists. However, Vygotsky's interests were invariably *centred on social elements embodied in works of culture with a structure of their own.* In may be that the decisive role was played here by the fact that he was from the start interested in philological texts, in sign-symbolic systems which are indeed constructed according to norms and rules different from those of interaction between individuals in the flow of real social life. Therefore the social is above all the socio-cultural to Vygotsky.

All the "traps" for capturing psychological laws have a verbal sign structure designed to produce a psychological effect. Vygotsky's interpretation of the latter was also indicative of the originality of his position. Just as the social was, in his interpretation, the socio-cultural, the psychical was always the bodily, always conjoined with an objective behavioural act, whether it be an emotional explosion (catharsis), memorising signs, or inner speech anticipating movement (in Carrying out a command). Hence Vygotsky's orientation at a nonclassical interpretation of the basic "cell" of the psyche. From the outset he saw it as a sample that could illustrate the structure of man's entire psychical organisation. The role of such a "cell" could not be fulfilled, in his view, either by the elements of immediate experience studied by empirical psychology (sensations, perceptions, associations, etc.), or the "Gestalten" of the new structural psychology, or the stimulus-reaction relations of behaviourism, or Freudian libido, or Kornilov's "reaction".

What were then, in the context of his search, the limitations of the concepts which formed the nucleus of various trends in psychology? These limitations were manifested in the uni-dimensionality of the concepts, in the fact that socio-cultural components were not represented in their inner structure and regarded as external with respect to both individual consciousness and behaviour. From these traditional psychological positions, a lyrical poem, mnemonics or a military command could not be recognised as the fundamental facts of psychology whose analysis could make the mysterious mechanism of the psyche transparent.

These facts were believed to be alienated from the psyche and to belong to a different order of things than the phenomena forming the prop er subject-matter of psychological cognition.

Vygotsky's efforts were directed precisely at overcoming this postulate. He made a daring attempt to explode it in *The Psychology of Art*, in which the artistic text was presented as a construction designed from the outset to control the individual's emotions. Aesthetic emotions can therefore be as little explained by themselves, regardless of the objective structure of the poetic text, as the meaning of an organism's reaction without knowledge of the physical environment whose irritants produced that reaction. According to Vygotsky, an artistic text is the technique of emotions, mnemonics is the technique of memory, and military commands are the technique of social actions. Technique is the organiser of a psychical act, it builds and controls it according to the socio-historical programme recorded in it.

The new ideas that dawned on Vygotsky in connection with the orientation at the analytical method and the search for the "cell" as an integral of the socio-cultural, properly psychical and bodily elements, were truly revolutionary. Much more revolutionary, at any rate, than Kornilov's attempts to put an end to old psychology by changing the names of laboratories at the Institute and by substituting the word "reactology" for "psychology". This reactological baptism did not signify, as we have pointed out, a recantation of old beliefs, of the idea of consciousness as something identical to what the subject directly experiences.

After Vygotsky's historical and methodological work embodied in the manuscript on "The Crisis", he gave up his old interpretation

of consciousness as "reflex of reflexes". New psychology must not put the time out of joint – that was the result of his' reflections on the historical path of his science. He pointed out that there was a continuous line of development in psychology from Aristotle's theory of associations to the theories of the Würzburg school about thinking as activity. It was not seemly for a Marxist to take a nihilist attitude to knowledge that had condensed in the concepts of psychical processes or functions, such as sensation, perception, attention, memory, affect, etc. Even when we reject the past, we rely on it.

A shift occurred in the mid-1920s in Vygotsky's search – from attempts to explain consciousness as a special method of organising reflexes to the study of psychical functions from a new angle. A new stage in Vygotsky's creative evolution set in. The style of his thought retained the features which we have already noted, especially the systems orientation. Previously, the system in question was behaviour, and from now on, the system of psychical functions.

His thinking was still concerned with the mutual orientation of the sciences of nature and those of culture, and the view of man as a unique object of cognition, the point of inter section of these sciences. These general premises had taken shape in the previous phase of his scientific search, and now they were shifted onto a new plane, guiding him towards the solution of the task which, as we have noted, embodied, in his view, the historical meaning of the Marxist re-orientation of studies in the psychical sphere, namely the development of a mediator science between philosophy and various special disciplines studying the behaviour of a child, of a neurotic, of animals, etc. He called it general psychology.

This science called for a "cell" discovered by the analytical method. "He who would solve the riddle of the cell of psychology, the mechanism of a single reaction, would find the key to the whole of psychology."[187] This statement was made in the MS on the crisis in psychology. The MS contains vague hints at the author's intention to systematically expound the con cepts of psychology. "To justify our arguments," he stressed "we must test our conclusions in practice, constructing a system of general psychology."[188] Niether in this MS nor in his later works did Vygotsky present the concepts and schema of general psychology. His thinking invariably gravitated towards the

187. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 407.

188. Vygotsky, p. 423.

search for such a "cell" and schema, and he was not alone in his quest.

His plans and his personality, the ideas he constantly generated, attracted to him more and more young scientists. Vygotsky's first and closest associates were Alexander Luria and Alexei Leontyev. They were only a few years younger than Vygotsky, but they looked up to him as their leader. They called themselves a threesome, but Vygotsky was the head of the group. Somewhat later they were joined by L.I. Bozhovich, A.V. Zaporozhets, R. Ye. Levina, N.G. Morozova, L.S. Slavina. In the same years, L.V. Zankov, Yu.V. Kotelova, Ye.I. Pashkovskaya, L.S. Sakharov, I.M. Solovyov and others took part in the research directed by Lev Vygotsky. Later they were joined by Vygotsky's pupils in Leningrad – D.B. Elkonin, Zh.I. Shif and others.[189] He also actively cooperated with other young researchers who later played a prominent role in Soviet psychology.

189. A. N. Leontyev, *On Vygotsky's Path in Science (Introduction to L. S. Vygotsky, Sobraniye sochinenii, Vol. 1)* (1982), pp. 18–19.

Surviving the TB attack despite the doctors' dire predictions, Vygotsky again plunged into intense pedagogical and research work. As before, he displayed a remarkable ability to distribute his energies among extremely diverse areas. He continued to work hard in defectology, where several specialists in the training and education of blind, deaf-and-dumb, and mentally retarded children became his loyal followers. In the same years he began to study mental disorders in patients with local damage to the brain at Professor Grigory Rossolimo's clinic. Here he began to study aphasias, or speech disorders. He was helped by Alexander Luria, who became a major specialist in this area. Vygotsky's work in defectology (especially with deaf-mutes) and the nervous clinic (with aphatics) offered him a chance to consider the correlation between speech, thought and external practical action in the context of pathology. This material compensated him, as it were, for lack of progress in the development of the analytical method which he saw as the main tool in the discovery of scientific laws in nature and society. He believed that method to be close to pathology, "that experiment mounted by nature itself".[190] In the case of pathology, nature rather than the researcher analyses the phenomenon. A disorder leads to the loss of a function, while the analytical method as a special form of abstraction selects and combines in a "cell" the features needed for the realisation of that function.

190. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 406.

The study of abnormal and sick children, of deviations from norm

and means of return to normality brought Vygotsky up against a problem which became in the mid-1920s the focus of his attention – the problem of development.

However paradoxical that may be, when Vygotsky worked as a teacher in Gomel and was daily engaged in the education of children their acquisition of new forms of behaviour, transition of their thinking from one level to another, etc., he made no special study in the development of the psyche. Of course, he clearly realised that a child changes in the pro cess of education, but he reduced the meaning of all changes in those days to increased complexity and combination of reflexes. He remarked

> There is probably not a single human reaction, which a child would not have in its cradle. It possesses the elements of all those most complex forms of behaviour which have resulted in the discovery of spectral analysis, Napoleon's campaigns or the discovery of America.
>
> Not a single new reaction emerges in personal experience, but these elements exist in a child as a chaotic, uncoordinated and unorganised conglomeration. The entire process of growth which separates the behaviour of an adult from that of a child can be reduced to the establishment of new links between the world and the child's reactions, and the establishment of their mutual coordination.[191]

We shall see how significantly Vygotsky's ideas about the development of the child psyche and the mechanisms of that development would change. In *Pedagogical Psychology*, though, he spoke of growth rather than development, and he saw growth it self as increasing complexity of conditioned reflexes. He perceived no qualitative differences between the psyche of a child and that of an adult (not to mention any phases in the development of the child psyche itself).

191. Vygotsky, *Pedagogicheskaya psikhologiya (Pedagogical Psychology, In Russian)*, p. 34.

The situation was much the same in another work of those years, *The Psychology of Art*. It considered in great detail the perception of poetic works (fables), but the effect of a fable as a work of art was described on the assumption of the invariance of its structure eliciting an aesthetic reaction (counter-emotion, catharsis) regardless of the age of the subject perceiving it. There was no mention of the development of that reaction (emotion).

Vygotsky's review of the critical situation in psychology in the MS considered above was imbued with true historism. But the principle of historism was applied in it to scientific cognition, to transformation of ideas, theories, etc., rather than to explanation of the nature of the psychical. However, soon after the completion of that MS, in which

not a word was said about the development of the psyche, a radical change occurred in the movement of Vygotsky's thought, and his scientific search was from now on centred on this problem.

Compared to the previous period, we note two basic shifts in this search[192]:

(a) transition from the view of the psychology of behaviour as a process of which the nucleus is a system of verbal reflexes to the idea of a system of psychological functions, and
(b) transition to explanation of these functions on the basis of the principle of development.

192. Chronologically, these shifts refer to 1927 and 1928.

Psychology In Terms Of Drama

In 1927, the Soviet Republic celebrated its tenth anniversary. Science did some summing up, too. Vygotsky received the proposal to review the the principal events in psychology in those turbulent years. This was in itself an indication of his high reputation. He began writing an article for the book *Social Sciences in the USSR*. Psychology belonged to the social sciences, but in his article Vygotsky emphasised the work of the leaders of the natural-scientific trend: Ivan Pavlov, Vladimir Bekhterev, and Alexei Ukhtomsky. These were the most prominent figures in the development of knowledge about the psyche in the post-revolutionary period. Not one of them regarded himself as a psychologist, yet Vygotsky explained that their contribution to the science of the psyche was much greater than that of professional psychologists.

Pavlov was given special prominence. Vygotsky wrote

> The theory of conditioned reflexes created by Academician Pavlov, must be seen as the principal and determining factor in the development of natural-scientific psychology in this country. The revolutionary nucleus of the new theory lies in three areas: its profound links with the animal roots of the human psyche, with the elementary forms of life; in its great promise for the properly human historical forms of nervous activity; and in that which connects the roots with the perspectives and builds a bridge between biology and history – in the principal idea and method of the conditioned reflex.[193,194]

Vygotsky referred to the Pavlovian theory of conditioned reflexes as "the decisive factor in the general development of psychological science"[195] in the young Soviet republic. Let us note that these lines were written when a number of works had already appeared (those of P.P. Blonsky, K.N. Kornilov, M.Ya. Basov, L.N. Spielrein, of Vygotsky

193. Vygotsky, "Obshchestvennye nauki v SSSR in 1917-1927 (Social Sciences in the USSR in 1917- 1927)," p. 30.

194. L. S. Vygotsky, *Psikhologicheskaya nauka v SSSR (1917-1927) (Psychological Science in the USSR 1917-1927, In Russian)* (Moscow, 1928).

195. Vygotsky.

himself) with an outline of the psychological theory, which in its subject-matter, tasks and orientation was different from the theory of the higher nervous activity. And yet, Pavlov was recognised as the principal figure in the formation of new psychology. For Vygotsky, he remained an ever bright lodestar, the standard-bearer of the determinist formula "there is no action without a cause", eternally relevant to science.

Vygotsky stressed that the theory of conditioned reflexes filled that formula with new content, above all with the idea of conditionality, which distinguished Pavlov's biological determinism from the earlier, mechanistic one. A watershed was thus created between the classical Cartesian schema of reflex and the non-classical Pavlovian one. But biology was not the only area involved here. In the words of Vygotsky, "the idea of conditionality built a bridge between biology and history", for history, culture and society were "a kingdom of conditionality".

Although this kingdom was subject to laws which impart a new dualism Unknown to biology to the dependence of the human organism's activity on the rapidly changing conditions of its existence, the principle of conditionality, universally applicable to any manifestation of behaviour, made it possible to reject the traditional opposition of nature to culture, of the organic to the historical world.

Connected with this was a fundamentally new view of the systems principle. Previously, the mechanical device of rigid construction was a model of this principle, whereas now the organism was seen as a system capable of learning and thus of development. Here lay the powerful explanatory potential of Pavlovian theory.

But Vygotsky also clearly saw its limitations. Let us recall that in his very first public speech before the Society of Students of Behaviour he accused Pavlov and Bekhterev of dualism: in their schemata, consciousness was split off from the organism's reflexes and thus remained an extra-corporeal sphere. The ancient picture of man as a being moulded out of soul and body still weighed upon scientific thought. The alternative solution at which radical reflexologists and behaviourists arrived was simple: they wanted to put an end to consciousness by finding bodily equivalents for it in the organism's reaction to external stimuli. That was a reductionism that boded no good to psychology, striking out as it did the most real and vital

problems in its purview. It was assumed that psychology would be able to establish its laws by studying the behaviour of animals: white rats, cats, dogs, monkeys, and so on. Psychology was "zoologised".

A few sectors of the scientific front were engaged in a search for other solutions that would be alternatives both to dualism and to reductionism. It was a search for ways of humanising psychology, opposed to its zoologisation; this, in its turn, demanded a new philosophy of man. That new philosophy was dialectical materialism.

In the mid-1920s, the French psychologist Georges Politzer outlined, on the basis of dialectical materialism, a plan for constructing psychology in terms of drama rather than consciousness (as in the introspective trend) or reactions and reflexes (as in behaviourism, reflexology, etc.). An integral event of a human life was taken as the unit of psychological analysis: the performance of an act, an interaction between individual and social environment. We should recall here that the main theme of Vygotsky's reflections on *Hamlet* was an at tempt to understand man in the conflicts of his being in this world full of tragedy.

Turning from the psychology of man as it was embodied in art to the science of it, Vygotsky encountered Dilthey's view that the image of that science was best expressed in the formula "Shakespeare in concepts", since Shakespeare's tragedies comprised greater knowledge of personality than all the psychological textbooks taken together. Vygotsky sharply rejected that idea in his analysis of the psychological crisis. Since Dilthey insisted that the secrets of the human spirit could only be intuitively grasped through interpretation of the creations of that spirit, the very possibility was thus rejected of causal explanation of the psyche in terms of action of material factors on a real human organism (the sort of thing that psychologists did in their laboratories).

Vygotsky then wrote,

> It is not Shakespeare in concepts, that is the purpose of such a psychology, as Dilthey believes, but, *in one word, psychotechnics*, i.e., a scientific theory that would lead to the subordination of and mastery over the psyche, to an artificial control of behaviour.[196]

For Dilthey, a psychologist addressing himself to Shakespeare would have to reject the principle of determinism, those methods of analysis of phenomena through which science acquires power over these phenomena by elucidating their causes. There was an outstanding model of such analysis right before Vygotsky's eyes – Pavlov's theory.

196. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 289.

Only it stopped short of the higher forms of behaviour, the forms inherent in man the personality, not just the man the organism.

"What is man?" Vygotsky asked. "For Hegel, he is a logical subject. For Pavlov, a soma, an organism. For us, he is a social personality = *an ensemble of social relations* embodied in the individual."[197]

In this context, Vygotsky's ideas were consonant with Politzer's plan for elaborating the problems of psychology in terms of drama. This plan resembled the Dilthey formula "Shakespeare in concepts" only in appearance. Being a Marxist, Politzer relied on the idea of social determination of the individual's behaviour. After reading Politzer's work *Critique of the Foundations of Psychology*, which appeared in 1928 in Paris, Vygotsky remarked in one of his MSS of 1929: "Dynamics of the individual = drama … The individual as a participant in a drama. The drama of an individual … Psychology is humanised. The psychology of man side by side with the scientific psychology of animals. That is the meaning of Politzer's article."[198]

Now, what prospects did the conception of drama (in the Politzer rather than the Dilthey sense) open up before psychology? First of all, this position assumed that the principal concept of that science must be personality, not consciousness or behaviour. Sciences differ in the type of organisation of the reality that they study. Chemistry studies substances, biology, organisms, sociology, society. Each of these "objects" is a system organised in a definite way rather than an amorphous wholeness. Personality is "*a special type of organisation, the primary concept of higher psychology*".[199]

The specificity of this category lies in that, being different from the other two universal concepts, organism and society, it can only be understood in terms of these concepts. The individual is "a social unit". This unit does not exist outside a system of links with other individuals. Vygotsky often quoted Marx's dictum: "Peter only establishes his own identity as a man by first comparing himself with Paul as being of like kind."[200]

Commenting on that proposition, Vygotsky wrote: "The real story of the individual in the story about Peter and Paul … lies in transferring a social relation (a relation between men) into a psychological one (within the individual)."[201] From a consideration of Marx's formula about Peter and Paul, Vygotsky drew the conclusion that the social

197. L. S. Vygotsky, "Konkretnaya psikhologiya cheloveka (Concrete Psychology of Man, In Russian)," *Vestnik Moskovskogo Universiteta Seriya Psikhologiya* 1 (1986): pp. 58–59.

198. Vygotsky, pp. 60–62.

199. Vygotsky, pp. 61.

200. K. Marx, *Capital*, vol. 1 (Moscow: Progress Publishers, 1984), pp. 59.

201. Vygotsky, "Konkretnaya psikhologiya cheloveka (Concrete Psychology of Man, In Russian)," pp. 58.

relation had to be analysed on two planes: on the plane of its transformation from an external into an internal psychical entity, and on the plane of the interpretation of that transformation as having a history of its own – with its various stages, zigzags, difficulties, and dramatic effect.

The principle of interiorisation, or transference of the external into the internal, had long asserted itself in psychology. Let us recall that Vygotsky applied that principle in his very first attempt to explain consciousness as a "reflex of reflexes". At the time, he accepted the speech reflex as a unit of the type of organisation of behaviour inherent in man. That reflex emerges in the space of direct contact between individuals and, being inhibited, sinks in the depth of an individual brain, thus forming an inner mechanism of consciousness formed from the outside. But when Vygotsky posited personality – a character of the drama of life on the social stage – as the highest unit of psychological analysis, the picture of the transformation of the story line of that drama, of external objective relations between men, into the invisible psychic al world, assumed a different colouring.

Vygotsky's new standpoint entailed that personality as a systems entity is not construct ed out of verbal reactions but out of psychical functions (perception, attention, memory, thought, etc.). Since personality is a product of a special form of life – the life of a collective – the functions that had for centuries been regarded as innate in the individual, in his soul, consciousness, his ego, must be seen as derivatives of that collective life. They are inherent in the individual but they are individualised only in the course of development, becoming his attention, his memory, etc. "The individual personality … is the highest form of sociality."[202]

202. Vygotsky, pp. 54.

The whole of previous psychology took the individual soul, the individual consciousness, to be the fountainhead of psychological phenomena (as distinct from the other phenomena of being). The social world, just as the natural one, was seen from this standpoint as external environment to which the self applies its psychical forces and functions. The new, Marxist view demanded that this self be seen as a reflection of the relations that arise among men regardless of that self. The individual psyche is a recent historical product which has emerged from the depths of collective life, a product that bears

an indelible imprint of the processes taking place in these depths. Since the ultimate basis of these processes is interaction among men, and since that interaction is full of dramatic effects, the division of psychical functions, wrote Vygotsky, involves an "unfolding of the highest process … *into a short drama*. Cf. Politzer: *psychology in terms of drama*."[203]

As an example, he cited the psychical function of voluntary attention: "someone masters, and the other is mastered".[204] Citing the views of the well-known French psychologist Pierre Janet, Vygotsky stressed that the word was originally a command to others. Vygotsky's reflections were invariably focused on the great role of the word in the subtle work of the human soul. He interpreted the word in the form of a speech reflex as the principal element of the psychology of behaviour. The word as a structure organised with the object of eliciting an emotional explosion was the core of the psychology of art.

The next step in his search was the attempt to explain the function of the word as a regulator of the real relations among men. The first relation to be singled out was the authority – subordination relation. Here is rooted, he believed, the social source of such a purely human feature of the organisation of psychical functions as their volitional character – the individual's ability to acquire power over oneself through giving orders to the self power over one's attention, memory, reasoning, etc.

The word has a volitional function. Man's locomotor apparatus is subordinated to it. But where does that magic strength come from? According to Vygotsky, it cannot be explained as long as we remain within the limits of an individual organism and of the dependence of its reactions on external stimuli (whether they be physical stimuli or verbal stimuli replacing them – the second signals, according to Pavlov). Only if we go beyond the limits of a separate organism towards a system of interpersonal relations entirely dominated by social laws, can we trace the factors endowing the word with power over the real actions of man's bodily structure and his psychical functions. "Underlying the psychological power of the word over psychological functions is the real power of superior anti subordinate."[205]

An over seer's order forces slaves to act, to subordinate their "raw psyche" to the social forms. A slave follows an external command.

203. Vygotsky, "Konkretnaya psikhologiya cheloveka (Concrete Psychology of Man, In Russian)," pp. 54.

204. Vygotsky, pp. 54.

205. Vygotsky, pp. 53.

He is a tool that is being manipulated. "A speaking tool," as they put it in antiquity. In a situation like this, there is no true dramatic effect. But what an overseer and a slave do can be combined in one man, when he orders himself to perform a certain action. An external command becomes internal here, and this process reveals the genesis of the mechanism of interiorisation.

We know that this mechanism has long been studied by researchers attempting to find out in what way the inner psychological plane of behaviour, the subject's invisible representations and ideas, emerge from the external relations. Vygotsky stressed the fact that these relations are socio-historical. The volitional character of the psychical regulation of behaviour distinguishing man from other creatures, man's power over himself, is rooted in the relations of power that take shape in society.

The problem of will has been the subject of extremely acute controversy for centuries. Its explanation in terms of natural causes was obstructed by the fact that the concept of causality was borrowed from physics, from the picture of interaction of natural bodies. Man's real ability to act on his own initiative was ex plained, given this situation in science, by the interference of an incorporeal volitional force in "machine of the body". This illusion, Vygotsky believed, is dispelled when one proceeds from natural links to social ones and looks at the problem historically. As long as the individual follows external commands, he has no will of his own, but under certain circumstances he gets the chance to resist them. "*Hence*," writes Vygotsky, "the mystery of the volitional effort – neither muscular nor spiritual – the resistance of the organism to commands."[206] It is resistance to the other that creates the dramatic collision. All the thinkers who have reflected on will have singled out as its obligatory feature the overcoming by the subject of external and internal obstacles, which requires a special effort on the part of the subject. They sought for the source of the effort in the properties of the spirit, the psyche, the personality. Looking for a material substratum for these properties, Sechenov discovered brain centre capable of inhibiting undesirable impulses, of resisting them. But this materialist solution also pointed to the source of resistance being concealed in the organism.

206. Vygotsky, pp. 54.

Vygotsky regarded the human organism as dependent on interaction with other men. It is here that he revealed the roots of volitional efforts.

Encountering those who previously controlled his psychical processes (perception, attention, memory, etc.) through verbal commands, an individual ceases to obey them, under definite circumstances.

The psychical mechanism of obeying these commands has already taken root in the subject, but he is now capable of resisting the commands coming from the outside, from other people, substituting his own command for the one from the outside. Like the latter, this order from within is embodied in the word. The word can be an inner word, not external (as, e.g., dictated by others). The question of transformation of external speech into inner speech had long been discussed in literature. To early Vygotsky, the idea that thinking is nothing more than inhibited speech was an axiom.

At first he accepted Watson's view that external speech first becomes whisper and later, losing the sound integument entirely, the inner word. Here we are again faced with an approach by which the transformation of an external action (verbal action in this case) into an internal one is achieved by the individual himself. True, he uses the social tool of speech, but he transforms this tool of communication into an instrument of thought regardless of the conflicts of social life and its endless dramatic effect.

Under the impact of the approach to psychology in terms of drama, Vygotsky revised his views on the transformation of external speech into inner speech. Previously, he regarded this process only as a phenomenon in the individual's intellectual activity, whereas now it became a problem in socially conditioned concealment of behaviour. He felt sorry about his own previous "underestimation of the role of whisper, secret and other social functions. I ignored the external dying away of speech".[207]

For Watson, whisper was a stage in the external dying away of speech which had no social purpose, a mere transition from a sound reaction to a soundless one, while ,Vygotsky began to discern the social premises of this transition in the drama of human relations. Psychology which makes this drama its point of departure must explain, he believed, personality and its psychical functions from positions opposed to the entire previous psychology which had accepted the individual as the seed in which all these functions were inherent and from which they all grew.

207. Vygotsky, "Konkretnaya psikhologiya cheloveka (Concrete Psychology of Man, In Russian)," pp. 54.

The tradition asserted the idea of these functions as features of the individual's inner world, as a special centre radiating actions which are then externally expressed in actions relating to others.

According to Vygotsky, movement in the opposite direction was necessary.

> The individual becomes for himself what he is in himself through revealing to others his own in himself. That is the process of formation of personality. This explains *why* all the inner elements in the higher functions were external: they were, for others, that which they are now for the self.[208]

208. Vygotsky, pp. 53.

One should recall here Kant's distinction be tween "thing in itself" given objectively, regardless of the way it manifests itself to our consciousness, and "thing for us", open to our consciousness. According to Vygotsky, personality as a reality does not exist "in itself" from the beginning. Personality emerges only through the individual "revealing to others his own in himself". Accordingly, personality development (which Vygotsky would soon call cultural development as distinct from the development of organism) appears in three stages: "in itself, for others, for itself".[209]

209. Vygotsky, pp. 53.

Man's consciousness is object-oriented. It is always directed towards some object. This inalienable property of the mind had long been interpreted as its primary activity. It was termed the intentional relation, and its concept became the foundation of the theories of Brentano and Husserl, who imparted an idealistic meaning to the psychological study of consciousness. In opposition to this, Vygotsky looked for the roots of the activeness and object-orientedness of the subject's consciousness in the subject's real links with the socium rather than in the consciousness itself. We become what we are through others. Through others, consciousness acquires properties which the idealistic view presents as a unique property of the pure spirit.

Vygotsky explained his conception of the mechanism of the formation of personality "through others" by citing an example which he saw as a model for the construction of all the higher psychical functions. In a child, the gesture of pointing is at first a failed attempt at grabbing aimed at an object and signifying an action. Later, the mother perceives it as a pointing. Only after that does the child itself begin to point. The mother's reaction trans formed the grabbing movement into a gesture, into an object-oriented tool of communication. It is out of

this division of functions between two individuals and cooperation between them that the intentional relation grows which permits idealist psychology to endow human consciousness with properties alien to all earthly things. The relation of cooperation requires means of communication. According to Vygotsky the sign is a universal means of communication. In the case of the gesture, a muscular movement acquires an object-related meaning owing to the way it is understood by another individual. By that token, it becomes a sign. The movement in question is a special sign operation, an instrument of affecting another individual. That was Vygotsky's basic schema in his first attempts to explain the genesis of man's psychical functions.

The difference of this explanation from the traditional is obvious. Psychical regulation is inherent in the behaviour of animals, too. In animals, this regulation seemed to manifest itself in the simplest form, so that its laws and mechanisms were believed to be more open to scientific analysis than in man. That was the way in which not only American behaviourists reasoned, for whom the principal object of study was the runs of rats made in a maze, but also European Gestalt psychologists, confident that the most general laws of the construction of the psychical image (Gestalt) could be established in experiments with animals (chickens, monkeys, etc.).

Vygotsky, however, proceeded from the assumption that there were qualitative differences between the psyche of man and that of animals, and searched for the determinants of these differences. The view that the key to man's psychical functions is sociogenesis (the transformation of social relations, through interiorisation, into the individual's psychical acts) was not a new word in science. It had been expressed by Pierre Janet, James Baldwin and others, which the erudite Vygotsky was very well aware of, of course. The novelty of his approach was determined by the fact that the idea of sociogenesis of the psyche fell on a soil quite different from that in the West.

Vygotsky's thought, as we know, revolved round two poles represented by Pavlov in biology and Marx in sociology. In Vygotsky's system the relations of cooperation to which the Western psychologists restricted themselves did not therefore appear as an isolated cross-section of life activity, but were included in an integral context which assumed both the work of the higher nervous centres and society's

historical development. Convinced that personality as the highest psychical structure was in principle not amenable to scientific, causal explanation outside this integral context, Vygotsky correlated the category of personality with the schema of neuromechanisms realising behaviour, on the one hand, and data on the historically variable social conditions in which personality is born, on the other.

Vygotsky's study of the higher nervous activity, on the one hand, and the history of society, on the other, determined the difference of his position from the approaches to sociogenesis which were worked out in the West.

We find Vygotsky's first notes on the subject in an unpublished MS from 1929, in which Politzer's interpretation of psychical life as a dramatic event referred to above is frequently mentioned. The individual is only capable of becoming a character in the drama if he acts of his own volition and opposes other individuals and his own passions, if he has a self endowed with strength. Underlying this is the individual's ability for making an impact not only on the external world (including other individuals) but also on his own inner world formed by his memory, thinking and other psychical functions.

It is obviously a question of psychical self regulation of human behaviour. In what way does it emerge, fundamentally separating man's behaviour from orientation among other living beings? The mechanism of their adaptation to the variable conditions of existence was discovered by Pavlov's theory. In one of his speeches, Pavlov compared the nervous system with a telephone exchange. As distinct from the unconditioned reflex, in which the connection between the perceiving device and the effective organ is invariable, connections in conditioned reflexes, are variable: the effective organ receives a sequence of signals from different "callers". There were no automatic exchanges then, so Pavlov said that the switching was done by telephone girls (operators). He employed here a purely metaphorical figure of speech, of course, since the entire merit of his theory lay in the fact that new forms of behaviour were explained by the dynamics of processes in the nervous apparatus without interference in this dynamics on the part of an external agent that would figure as the ultimate explanatory cause. Incorporating this agent (who would explain everything but need not an explanation himself) in the chain of cause-and-effect links, one

would have to reject determinism.

However, as far as the human level was concerned, Vygotsky believed that the conditioned reflex mechanism had to be complemented by an "operator" as a real and higher force. By this he meant personality, which lent behaviour a special "type of organisation". Vygotsky wrote

> Z only want to say, that without man (= operator) as a whole the activity of his apparatus (brain) cannot be explained, that *man controls his brain and not the brain the man* …, that without man his behaviour cannot be explained, that psychology cannot be expounded in terms of processes but only in terms of drama. *When Politzer says that it is the man who works, not the muscle, this is it in a nutshell.* This applies to the whole of man's behaviour.[210]

210. Vygotsky, "Konkretnaya psikhologiya cheloveka (Concrete Psychology of Man, In Russian)," pp. 62.

Introducing the term "operator" as a synonym for the personality category (the category of man), Vygotsky stressed that he did not thereby return to traditional dualism according to which the soul (consciousness, self) as an agent external with regard to the "machine of the body" starts this machine. In his view, the new formula he proposed for the explanation of self-regulation of the actions of man's self, "operator + apparatus … is by no means more mystical or closer to the soul than regulation of muscles by higher nervous activity".[211]

211. Vygotsky, pp. 61.

There was only one way of dispelling the mysticism, of explaining man's special position in the Universe without interference of the soul as an independent element of psychical phenomena. That was the way of determinism. The form of determinism embodied in the theory of conditioned reflexes could not explain the specificity of the personality level in the regulation of life activity; the new form, though, took shape in Marxist philosophy with its idea of personality as a condensation of social relations. This idea led to a humanisation of psychology, to an introduction into psychology of schemata which made it possible to remain true to determinism while at the same time going beyond the view that the behaviour of all living beings is subject to identical laws.

The Politzer schema took shape in the frame work of that search. The individual acted as a character in the social drama. Vygotsky saw the productiveness of various aspects of this change in psychological analysis. It was necessary, first of all, to accept personality as an integral whole, starting out from the general proposition that "it is not thought that thinks but man",[212] and to consider every psychical phenomenon

212. Vygotsky, pp. 58.

in terms of its function in that integral system. "*Who thinks, what* role, what function in personality the thinking performs – that is the whole point."[213] It follows that in psychology thinking only figured in its personality hypostasis, although the logical laws of human thinking were universal. "Given that *a man thinks*, let us ask, *what man* (a Kaffir, a Roman, … the rationalist Bazarov, Freud's neurotic, an artist, etc.)?"[214]

213. Vygotsky, pp. 61.

214. Vygotsky, pp. 59.

Here Vygotsky referred to men from different epochs, shifting the problem onto the plane of historical psychology. On another occasion he addressed himself to different relations between the functions in the life of one and the same individual, stressing that this relationship, too (as, e.g., between thinking and passion) was full of drama. It was all a matter of what love, dream, art, etc. meant to the concrete individual.

The employment of drama as a model held yet another promise. It made it possible to introduce the concept of social role and to subordinate to it the dynamics of the processes within the individual. "The social role (judge, doctor)," Vygotsky notes, "determines the hierarchy of functions; that is to say, *the functions change the hierarchy in different spheres of social life. Their conflict is drama.*"[215]

215. Vygotsky, pp. 61.

The concept of drama, transferred by Politzer, under the influence of Marxism, from the art of the theatre to empirical science, was tested by Vygotsky in different areas of research: in the psychology of personality (the relation ship in its structure of various components, the functions), in historical psychology (shifts in the "weight" which some psychical phenomenon, say dreams, has in the regulation of the given individual's behaviour at different historical epochs – in primitive society, in antiquity, etc.), in social psychology (man's role-determined behaviour – the roles of husband, judge, etc. – and the conflicts arising between the role-determined and the personality elements), and in the analysis of the neuro-mechanisms of the self-regulation of behaviour. All these were sketches of differ ent approaches to psychology in terms of drama.

Vygotsky did not live to implement any of these approaches in practice. The span of creative life allotted him by fate was spent in the study of the development of the psyche in ontogenesis, and the drama of this development. Quoting Karl Bühler, Vygotsky said that the greatest drama of development was played out in the very first words of a child – the conflict between the natural and the socio-historical.

Penetration into the plot of that drama and into its motive forces led Vygotsky to his principal theory – the theory of the development of the higher psychical functions.

The Discovery Of The Mechanism Of The Higher Forms Of Behaviour

In the early 1930s, Vygotsky's creative energy swelled. No psychologist could compare with him in the wealth of new productive ideas. It was amazing how he managed to combine profound theoretical work with experimenting, reading numerous lectures (not only at only at several higher educational establishments in the capital but also in other cities – in Tashkent, Kharkov, and Leningrad), with studies at the clinic, directing the Experimental Defectological Institute, and daily talks with his associates who, inspired by his original projects, tested his ideas in experiments with children.

He read a great many papers at various conferences and congresses, wrote reviews and prefaces, published theses, articles, and introductions to materials gathered by his colleagues. Along with this work, which taxed his physical and mental powers, Vygotsky continued to search for a new theory capable of leading psychological science out of the crisis and of application in education, instruction and treatment.

Such a theory matured as he closely studied the events in Western psychology and waged acute polemics with its leading representatives, like Thorndike, Köhler, Freud, Piaget, Bühler and Lewin.

Vygotsky stressed that psychical phenomena must be seen as processes, not things. In itself, this imperative did not yet signify a radical shift in the style of studies in consciousness. Since Wundt, experimental psychology had tried to approach its phenomena not as readymade things but as transitions from one state to another. The fluidity and variability of the mental phenomena in time was regarded

as their self-obvious characteristic. William James even introduced an expression that became popular not only in psychology – "the stream of consciousness". Not one thinking researcher, not even such a fanatic exponent of the splitting of consciousness into elements as Edward Titchener, rejected either the fluidity of the processes of consciousness or their dependence on the nervous system.

With the collapse of introspective psychology and the assertion in it of the formula "behaviour of the organism and its adaptive reactions to the environment" instead of the "consciousness and its phenomena" formula, new approaches to the development of the psyche came to the fore. On the methodological plane, the radical nature of these changes was determined by a clear swing towards biological determinism. This inevitably entailed revolutionary changes in the interpretation of consciousness. Former views of consciousness were subjected to radical revision whose meaning was determined by the need to establish the purpose of consciousness among the organism's functions, all of which were given a new interpretation.

The triumph of evolutionary biology made axiomatic the view that natural selection destroyed everything in the organism that did not contribute to its survival under the variable conditions. It followed from that fact alone that consciousness could not be a residual product of life, that it was a necessary condition of its preservation and development. If it were not that, it could not have either emerged or further developed.

As far as the influence of Darwin on psychology is concerned, his idea of development, of gradually increasing complexity of initial forms is mostly stressed. But the hypothesis concerning the development of life functions, including psychical processes, had been accepted long before Darwin, probably at the time of Heraclitus. Darwin's theory brought into psychology such key problems as the purpose of the psyche in the organism's adaptation to the environment, the phylogenetic conditioning of psychical functions, their individual variations, the dependence of behaviour on heredity, the continuity of development from the animal psyche to human consciousness.

An important result of the shift brought about by Darwinism was the birth in psychology of the objective, genetic, and statistical methods (the latter intended to take into account the probabilistic

character of individual differences), and the emergence of the category of behaviour.

The new system of ideas embraced the evolution of the kingdom of life as a whole. The evolutionary approach was brought into the explanation of the origin of the species along with the principles of heredity, variability and natural selection. The species rather than separate individuals were thus the objects of explanation. But, being a member of the species, each individual was subject to general biological laws in his life activity and, consequently, in the psychological hypostasis of that activity. As far as individual behaviour was concerned, these laws opened up the perspective for a truly causal explanation of such an obvious characteristic of behaviour as purposefulness.

An actual reaction was regarded not only as a response to stimuli acting at the given moment but also as intended to achieve a successful adaptation to the coming circumstances. This preliminary "tuning in" of the organism to a necessary future, organisation of behaviour with a view to a purposive cause, emerged as an effect of natural selection and not as an immanent property of life (which is the vitalist view). The real teleology of life, considered in the context of the evolutionary process as a whole, was given an uncompromisingly determinist explanation. A rational explanation was provided in terms of this context to such a universal form of the behaviour of each separate organism as instinct.

Darwin himself attempted to explain instinct with the principles of natural selection. But the higher we rise on the evolutionary ladder, the more obvious is the individual variability of behaviour, its non-predetermined changeability, the organism's ability to acquire new reactions. Under the impact of Darwinism, a biological interpretation was given to this ability as well, an ability implying a restructuring of reactions aimed at the survival of a separate organism in an unstable environment – whereas instinct is basically stereotyped, the same for the whole of the species and rooted in the general mechanism of heredity.

The theory of natural selection was based on the *probabilistic style of thinking* alien to the old mechanistic view. Living nature "tries and errs". It is impossible to foresee, on the basis of a general law, which of its creations will survive under the impact of the destructive forces

of the environment. Such events cannot be predicted with the same certainty as we predict, for instance, the movement of bodies according to the laws of mechanics (say, a solar eclipse).

The "trial and error" principle entered psychology along with experiments in the training of animals, in developing certain skills, i.e., actions that were not part of their hereditary repertoire. In Thorndike's pioneering works this principle was used as an explanatory one. In solving a problem (e.g., trying to get out of a cell to get food), an animal performed a great many movements until one of them accidentally proved successful. According to Thorndike, man also learns "by trial, error and accidental success". This idea became the starting point of the entire behaviourist trend.

Another direction of research, just as revolutionary, took shape owing to the discovery of conditioned reflexes. They emerge on the basis of innate or unconditioned reflexes through the reinforcement of signals informing the brain about the situation, favourable or unfavourable to the organism's behaviour. Conditioned reflexes were interpreted as the basis of skills or combinations of movements which, unlike instincts sanctioned by the entire might of phylogenesis, are gained by the given organism's own experience.

The formation of conditioned reflexes changes the organism, which acquires new links with the environment. On these grounds, the organism is believed to be developing. The problem of the organism's individual life course was thus explained in a natural-scientific manner. Since the concept of conditioned reflex took shape in the search for a unit which would be just as physiological as it was psychical, complex conditioned reflexes could be seen as development of the organism not only as a physiological but also as a psychological system. As for Vygotsky, he preferred to speak cautiously about the development of the organism. The term "behaviour" remained ambiguous. In Pavlov's theory, it was identical to the concept of higher nervous activity.

Thorndike and later behaviourists reduced behaviour to the stimulus-reaction formula, the reaction being mostly seen as a movement through which the organism copes with the difficulties of the external environment. The results obtained by Gestalt psychology, particularly by Köhler, proved that the movement itself is not "blind" but is regulated by cognition of the environment given in psychical images.

None of these explanations – Pavlov's, Thorndike's and Köhler's – took psychological thought past the boundary beyond which stretches the world of qualitatively different forms of behaviour inherent in man. This world is ruled by the laws of history and culture which transform the natural foundations of the individual psyche, taking its development to a qualitatively new level.

As we have pointed out, there were several explanations of the development of the psyche at the time when Vygotsky entered this field. Each of them offered its own interpretation of the mechanism of the development of individual behaviour. Bühler arranged these mechanisms at different stages of the genetic sequence, positing the following hierarchy of three forms: instinct, skill, intellect. *Vygotsky's innovative move was the introduction of a fourth form in the picture that had taken shape in world science, a form that he termed "cultural development of behaviour".*

A methodological premise of this important scientific innovation was the Marxist theory of the special relations which take shape between men and nature, and of the specific factors of regulation of these relations. Their specificity was expressed in this formula: changing external nature through means created in the course of socio-cultural development (the means being implements of labour and tools of communication), man changes his own nature. Thereby a new perspective in the realisation of the principle of the development of the psyche was indicated. To explain the development of the specifically human forms of behaviour scientifically meant to find a type of determination corresponding to them. In the period of Vygotsky's activity which we consider here (the early 1930s), this search was the main purpose of his life.

The types of determination of phenomena which were discovered by Darwin in the evolution of the species, by Pavlov in the behaviour of the individual, by Marx, in the history of society, became premises for Vygotsky's intense work, and bridges leading into the domain of the psyche. But direct extension of these premises to embrace this domain inevitably led to reductionism – biological, reflexological, or sociological. The proper laws of the development of the psyche as a distinct reality evaporated. The task prompted by the logic of the development of science, as Vygotsky saw it, was to grasp the specificity

of the formation of the individual psyche of man in connection with a special type of its determination different from, though correlated with, the biological type and the general scientific one. He began working on this task using that very objective analytical method to which the sciences owed so many great discoveries, as he referred to Engels in the MS on psychological crisis.

In place of the previously identified "cells" of psychology – the aesthetic reaction and the speech reflex – he now developed a new model intended to cover all the psychical functions inherent in man only, or the higher functions. This model was described in the form of the universal relation "stimulus – the cultural sign as a psychological tool – the behavioural reaction".

Proceeding from the Marxist proposition that labour and articulate speech link men with nature and with each other, Vygotsky introduced two determinants – the tool and the sign – in the explanation of the forms of behaviour characteristic of man.

Since the empirical reality with which he had to do was the development of psychical functions in children, first abnormal and later also normal, he focused his attention on the sign. Although he also considered the role of the other determinant, the tool,[216] in a special study, its place in his general schema of ontogenesis proved to be insignificant. And that is hardly surprising since tools as factors in the transformation of men's psychical activity emerge in their historical significance only in productive labour, in which children are not ordinarily engaged.

216. We refer to the unpublished MS "The Tool Sign in Child Development", tentatively dating from 1930.

The sign thus became the principal figure of the new stage of Vygotsky's search. This fact was rooted in the quest of the previous period. Speech, too, is from the outset endowed with the sign function, and Vygotsky had had to deal with speech in his previous work – in defectological studies (when he saw that a defect was compensated through replacement of one sensation performing the sign function by another) and in the analysis of aesthetic reactions (when artistic signs [texts] were regarded as irritants producing a reaction).

In all cases, though, the concept of sign was identified with only one variety – with language sign. This created difficulties in the study of the way signs are used to regulate the structuring not only of the process of thinking but also of other functions such as attention,

memory, object-directed action, etc. These functions demand the subject's special activeness. Language is not created by the subject. It exists independently of it. The task with which the subject is concerned is the use of a readymade sign system (not one he creates on his own) in communication, cognition or action in the surrounding world. In art, for instance, the system of aesthetic signs was described by Vygotsky as a social technique for the emotions. Just as other technical devices, this technique is independent of the psyche, and it affects the psyche (in the first place the individual's emotional sphere) producing certain shifts in it (catharsis, etc.).

A similar relation of the social product, language, to individual behaviour was also assumed in the discussion of the role of language in intellectual, cognitive processes rather than emotion al ones (as in the case of art).

The word's indivisible links with thought were well known already to Plato and Aristotle. In the post-medieval period, the formula gained wide currency that language was a tool of reasoning. One would have thought that this formula would be eagerly accepted by Vygotsky who drew a parallel between tool and sign and sought to interpret these means, alienated from the individual, as an instrument for the organisation of his psyche. But, as he passed to the study of the role of these instruments, he spoke not without irritation of the view that language serves as an instrument of thought. Vygotsky wrote "Such familiar expressions as 'language is a tool of thought', which abundantly occur in psychologists' works, are devoid of any definite content ..."[217]

As we go into the question of why Vygotsky singled out, in this period of his work, the sign function as a special one, not entirely coinciding with the similar function of the word (as had previously been assumed), we should move into the general space of his search, of which the centre was the problem of correlation between the natural, the psychical and the socio-cultural in human behaviour. In his interpretation of the natural he followed Darwin, relying on the vast experiences of zoopsychology, which rapidly developed in that period. Kohler's experiments, which he studied most carefully, showed that the behaviour of living beings (apes) in its pre-human forms was not only regulated by the psyche but could attain, through the use

217. L. S. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, vol. 3 (Moscow: Pedagogika Publishers, 1982), pp. 87.

of tool-like means by the higher animals, a level close to that of the human intellect.

Pavlov rejected zoopsychology as a science and its special subject-matter, the psyche in animals. For Pavlov's work this position had a certain heuristic meaning, since he regarded the psyche as the subjectively given, as phenomena of the inner world characteristic of man only.

This approach was unacceptable to Vygotsky. Just as the outstanding Russian zoopsychologist V.A. Wagner, he did not regard the psyche as a uniquely human property but as a special form (not coinciding with the physiological one) of regulation of the behaviour of living beings in the vast continuum of the evolution of the animal kingdom. Having emerged from a horde of apes and creating his social world, man inherited from his animal ancestors also the fruits of their psychical development. In the hew world, man transformed external nature and also his own, thus changing his psyche – the system of specific functions that formed an inseparable part of that nature.

Bearing this in mind, Vygotsky formed the view that the development of the human psyche signified the transformation, under the new conditions, not only of the organism as a physiological system but also of the psychological system inalienably connected with the former. Hence his postulate concerning two levels of psychical functions – lower, or natural, pre-social ones, and higher, or cultural ones.

This postulate gave rise to countless arguments and reproaches. The principal reproach was that Vygotsky unjustifiably sundered two lines, two series of functions, although the human being, from the moment of its appearance in this world, is immersed in the socio-cultural world, and is constantly determined by it in all its psychical reactions to it. Far from opposing these two series of functions, Vygotsky himself constantly stressed their actual connected ness in the child's real integral behaviour. We know, though, that he never conceived integrality and connectedness as homogeneity devoid of internal contradictions bordering on high drama. On the contrary, he saw these contradictions between the natural and the cultural as the "locomotive" of the history of the child, the dialectics of that history.

At the dawn of Soviet psychology, Pavel Blonsky expressed an idea which became Vygotsky's favourite aphorism: *behaviour can only be*

understood as history of behaviour. It was from this position that Vygotsky embarked on the study of ontogenesis. He conceived the history of behaviour as "a history of the development of the higher psychical functions". That was the title of the monograph he wrote in 1931. Its first part was first published in 1960, the subsequent parts, in 1983.

We have considered the ground on which Vygotsky divided the lower (natural) functions from the higher (cultural) ones. The division stemmed from the need to define what the psyche is as a special system in the regulation of the behaviour of the human organism whose individual development (unlike the organism of an animal) integrates the biological and the social. Why was it important to tackle this problem? In the light of the achievements in the study of the brain, the biological was reduced to nervous processes only; they were seen as the substratum or premise of psychical processes.

According to Vygotsky, though, psychical processes were just as an inalienable part of the organism's biology as nervous ones. Psychical processes form the level of elementary psychical functions which become the lower functions when the subject develops psychical functions of a higher order in the course of his life in society. With the appearance of these, the lower functions are transformed, becoming elements of a new fusion and being retained in a sublated form. The sublation was conceived by Vygotsky in Hegelian fashion as a dialectical transformation.

Now, how does this transformation happen? In what way does reflex attention become volitional, how does mechanical memory become logical, reflex action conscious and volitional?

To explain these transformations, Vygotsky worked out a new basic schema of the organisation of human behaviour and consciousness. He expressed the view that all the previous psycho logical theories were based on the stimulus reaction relation. This relation is commonly believed to be a feature of one theory only, namely, behaviourism, whereas Vygotsky endeavoured to prove that subjective psychology, too, relied on this relation. It accepted the two-term formula as a dogma, the difference (immaterial in this context) between the two directions being that, whereas behaviourism interpreted reactions as movements, subjective psychology referred to the phenomenon of consciousness (image, experience, etc.).

A radically new element of Vygotsky's theory was his inclusion of a third element in the stimulus–reaction connection, that third element being a cultural sign as a psychological rather than technical tool. It was this tool that became the principal instrument of transforming elementary functions into higher ones. Originally, though, this tool is used in communication, in a direct and open communication between individuals. Higher psychical functions are therefore just as cultural as they are social in origin. Each higher psychical function, Vygotsky said, appears twice on the scene: first in communication between men, and only then does it "move inside" (is interiorised), becoming the subject's property inalienable from him.

Another important aspect of the higher functions is their systems character. They do not function separately but form an articulate whole. Each of them can therefore be scientifically explained only if the dynamics of its interrelations with the other functions is considered.

The interpretation of the higher psychical functions sets off the features of the general style of Vygotsky's thinking. They can be characterised in terms of several principles, such as the principle of mediation (any psychical act of the individual is mediated by a supra-individual factor, in the present case, by the cultural sign), social conditioning (in any psychical act of an individual, another person is represented), systems nature (any psychical act depends on the whole in the dynamics of which it is realised), development (the system of psychical acts undergoes evolutionary and revolutionary transformations).

The concept of the psychical function had long become part of the scientific lexicon. Vygotsky's reasoning imparted to it a content radically different from the one accepted in tradition al psychology, where it meant a separate homogeneous form of the activity of consciousness, such as perception, thinking, imagination or will. When they were studied in ontogenesis, it was assumed that it was one and the same function that changed in a child, while Vygotsky, first, split what seemed to be a unitary process into two, the two elements having different histories and different determination; second, he asserted the view of the psyche as a functional system of the organism that was just as obligatory as blood circulation, nervous activity, etc.; third, he considered this functional system in terms of its development, which

acquires a socio-historical character in the transition from the animal organism to the human one.

All these innovative ideas raised problems that had been alien to the entire previous psychology. Vygotsky himself achieved some progress, both theoretical and experimental, only in one of the directions he sketched out, namely in the problem of the development of the higher psychical functions in ontogenesis.

He approached this field from innovative positions, too, delimiting the generally accepted divi sions between concepts. As far as the lower psychical functions were concerned, he struck out the equality sign, taken for granted, between the biological and the nervous (physiological), including psychical phenomena as such (and not just their nervous substratum) among biological phenomena; similarly, he made an innovative move as regards the higher psychical functions. He boldly drew a line between individual forms of culture, on the one hand, and the way in which the signs of that culture are employed by the individual, on the other. Thanks to this delimitation, he was able to work out his first experimental research programme.

The content of that programme was determined by the task of studying the way in which biologically determined elementary psychical functions in a child operating with such a tool as the sign are transformed into higher functions as a result of which the actions of the organism become conscious and volitional.

Vygotsky's programme included a special method which he called *instrumental*. The method implied the use of experimental schemata in which the subject employed various "psychological tools" – not only the spoken word but also writing, algebraic symbols, schemes, diagrams, maps, works of art, conventional signs, etc.

We have already pointed out that the category of the sign, which became the core of Vygotsky's system, was at one time identified with the word as the sign of language; with the transition to the study of the development of behaviour, it lost this identity. Having absorbed the theories of the new school of literary criticism in the Soviet period, Vygotsky perceived language as a system organised according to its own principles inherent in that system only and different from the principles controlling the course of the individual's psychical processes.

The system of language as such does not have attention or will, memory or affect. Accordingly, the signs that form this system cannot explain, despite its being a cultural-historical system, the mechanism of the development of the individual psyche in the transformation of elementary forms into those inherent in man "growing" into culture, learning and being trained. Those were the grounds (incomprehensible to many of his critics) on which Vygotsky split off a special kind of cultural sign, which he saw as the lever of psychical development, from the cultural sign systems (in the first place, from language) already created by society. He posited that unusual concept in order to explain, in a determinist manner, the active character of the behaviour of men as beings capable of free choice, of controlling their inner psychical processes and volitional self-regulation of their acts. He considered these properties of human behaviour as a boundary which no animal, not even the most highly organised one, could cross.

The cultural sign is thus a stone marking a certain border. With it, a very special principle comes into action in the evolution of life on the Earth. Vygotsky explained the strength of that principle by comparing it with the one which was introduced into science by Ivan Pavlov. According to the latter, "the main and the most common activity of the hemispheres of the brain is signalling activity, with an infinite number of signals and with a variable mode of signalling".[218]

This signalling reflects the natural links between phenomena grasped by the brain in accordance with the organism's need, to survive in a variable environment. But man does not just adapt himself to the existing links between objects in nature. He changes nature, and to achieve this, he has to subordinate psychical processes to his will. He changes nature with the aid of labour tools. But what means does he use to change his own natural psyche? To achieve this, he introduces, according to Vygotsky's hypo thesis, irritants for the brain that nature does not know. These irritants are artificial, or man made. Created by men, they permit them to change themselves, not the external world.

In place of signalling, a new principle was introduced, that of *signification*. The principle consists in the fact that "man creates associations in the brain from the outside, controls the brain and, through the brain, his body".[219] Taking up Pavlov's comparison of the brain to an immense switchboard, an apparatus intended to

218. I. P. Pavlov, *Polnoye sobraniye sochinenii (Complete Works, In Russian)*, 2nd ed., vol. 4 (Moscow-Leningrad, 1951), p. 30.

219. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, pp. 87.

close temporary associations Vygotsky adds his own metaphor to this comparison: "man creates a key to that switchboard … With the aid of that key, he masters the activity of the cortex and controls his behaviour".[220] We see that Vygotsky regarded signification as a principle that organised the work of the brain – an organ that was believed to be an object of physiology. He did not doubt that the special organisation of that bodily organ in man also determined the entire specificity of his higher nervous functions (not identical with the physiological ones).

220. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, pp. 82.

To better understand the path which Vygotsky took in his study of the laws and mechanisms of the development of man's higher psychical functions, we would do well to compare the direction of his thought with the idea of the two signalling systems (which Pavlov conceived at the age of 80). The idea was that the word, being a special kind of irritant (second signal), distinguishes man from animal and introduces a new regulative principle in his behaviour. According to Pavlov, the word signals all the external and inner excitations that come to the cerebral hemispheres. It replaces these signals and is therefore a "signal of signals". Although Pavlov noted that the psychical correlate of first signals, sensation, was different from that of second signals, concept, he saw no principle other than signalling to embody man's relations with reality.

Vygotsky, however, introduced signification as a radically new type of regulation of these relations, along with several categories, unknown to Pavlov, as part of the conceptual apparatus for the description of human behaviour and its differences from animal behaviour. The cultural sign was above all the instrument of signification. A further such category was the social relation as the primary basis of the transformation of the cultural sign into an instrument of the individual's control over his behaviour. The sign serves as an instrument of influencing others, and only through that (owing to interiorisation) becomes a key which the subject can apply, on his own initiative and volition, to his brain, to the psyche.

The third point, which followed from the second, had to do with the evolution of signs and their role as instruments of psychical development. The transformation of the sign as an external means into the sign as an inner lever for the regulation of psychical functions, such

as attention, thinking, etc., is not a momentary act. Lower functions develop into higher ones through a process that has its own stages.

"The transition from social action outside the individual to social action within the individual will be made the focus of our study; we shall try to elucidate the most important moments that form this transition." That was how Vygotsky formulated his master plan for the study of the history of higher psychical functions.[221] We see that this plan envisaged a point round which the entire history of higher functions was to be concentrated, namely the construction of a special kind of psychical system – the system of the individual who has learnt to control himself, who has mastered all his internal and external processes.

221. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, pp. 83.

Let us sum up our comparison of Pavlov's views of the specificity of human behaviour as regulated interaction of two signal systems with the propositions concerning that specificity at which Vygotsky arrived. It is all the more necessary to point out these differences, since in present-day Western literature Vygotsky's theory of the sign as regulator of man's behaviour is seen as a paraphrase of Pavlov's ideas about first and second signals.

Vygotsky's important innovations were connected with the assertion of the signification principle (in place of signalling), the cultural sign concept (in place of signal), the view of this sign as a tool employed in man's relations to himself (by analogy with tools used in acting on nature), the view of the sign as emerging from the depths of social relations (whereas signals, whether first signals or second, circulate within the limits of an individual brain), the role of the sign in the organisation of higher psychical functions and the development of these functions to the level of the subject's volitional control of his behaviour or, in other words, to the level of personality-based self-regulation different from the self-regulation of the organism's behaviour.

The interpretation of the sign as a psychological tool, a mediator between consciousness and object, entailed a transformation of the categorial apparatus through which the psychologist masters his unique object – the human soul, putting it in old-fashioned language. This also had a direct bearing on practice, since it threw light on the mechanism of the child's fragile soul; in the absence of scientific knowledge about its structure, pedagogues could but grope their way blindly here. In

his daily work, the teacher encounters various manifestations of child psyche. But he has no command of the tools that would enable him to discern the inner essence, nature and origin of some process concealed behind outward appearance. Penetrating behind this appearance is the task of psychological science which lays bare the causal dynamic relations never seen on the surface.

We have already seen wherein lies, according to Vygotsky, the specificity of these relations in the development of the cultural forms of child behaviour, of the child's psychical functions developing into higher functions in the course of education, these higher functions being marked by such features as consciousness and, more importantly, volition. At this level, attention, memory, the flow of notions, object relation actions, etc., are all volitional.

For ages, volitional psychical processes, believed to be set in motion by a special kind of force radiated by the extra-terrestrial kingdom of the spirit, were opposed to involuntary ones, those that were subject to external action on the organism. The model of human behaviour developed by Vygotsky permitted a causal genetic explanation of its volitional character. In other words, it made visible the real causes which in the process of development impart to this behaviour features that raise it above the behaviour of all living creatures. This is determined by the regulation of human behaviour by a system of higher psychical functions constructed with the aid of objective "things" of culture. Most of these functions were studied experimentally by Vygotsky and his disciples, who relied on his innovative theoretical model and the corresponding method. The latter was built on the assumption that, using signs as instruments of acting on attention, memory, and other processes, the child masters the latter in cooperation with adults, and transforms them, into higher psychical processes.

The results of these experimental studies were generalised at the turn of the 1930s by Vygotsky, as we have already mentioned, in two large MSS, "The History of the Development of Higher Psychical Functions", and "Tool and Sign in Child Development".

Vygotsky's theory of the cultural sign, of higher psychical functions, their systems character and development, presented the general picture of man's psychical organisation in a new light.

It should also be noted that Vygotsky revised the traditional concep-

tions of the localisation of psychical functions in the brain. He rejected the view according to which each function (perception, speech, etc.) is represented by a definite area of the cortex. This view stemmed from the old notion of the independent manifestation of each separate function, of its production by the brain according to the same model as the functions of other body organs, and from the fact that a function is not subject to qualitative changes in its development.

Rejecting this view, Vygotsky proposed an innovative interpretation of the psychical functions in their relation to the brain. First, he asserted a new principle of the organisation of functions in the human brain, which he called extra-cortical and which was distinctly different from the principle controlling the animal brain. The term implied that, using tools and signs external with regard to the cortex, man creates new "functional organs" in the brain. This enabled the psyche to change without significant changes in brain structure. Second, the study of the localisation of the psyche must be focused on the system of functions as a whole rather than on one separate function tied to a separate centre. Third, inasmuch as this system develops, one and the same area of the brain struck by a disease differently affects the psyche of the child and that of an adult.

The cultural sign concept developed by Vygotsky was an important contribution not only to psychology. It also enriched semiotics, or the science of signs. An interesting undertaking was in this respect Vygotsky's plans for studying, together with the outstanding film director Sergei Eisenstein, the signs of the cinema language.

In discussing Vygotsky's discoveries connected with the theory of signs as psychological tools we should bear in mind that his thought did not stop there. The problem of the meaning of signs moved into the focus of his quest. In the years that followed (1931–1934), *the category of meaning* became central to him. This opened a new chapter in his creative work.

The Path To Concept

Of all the psychical functions, thinking was the object of Vygotsky's most stable and intense interest. And that was not surprising. The humanisation of psychology required concentration on analysis of differences between man's spiritual life and animal psyche. The basis of the differences was believed to be, since antiquity, in man's ability to reason, generate and combine abstract ideas, etc.

In constructing his model of the organisation of the higher forms of behaviour, Vygotsky, far from opposing reasoning to other functions – attention, memory, etc., – included them all in a single system. In his view, they were all activities of consciousness, different but inherently connected and subject to a general law. That law, as indicated above, stipulates that the psychical function, originally social, is mediated by a cultural sign and becomes intra-psychical. Since this general principle is extended to cover thinking as the most concealed and intimate function, Vygotsky regarded it as determined by and dependent on cultural signs.

The question of the origin of these signs did not require special search, as was the case with other functions. These signs were words. That word and thought were indivisible was believed to be self-evident since ancient times. Indeed, the word is a thread in the "sound matter" which, unlike natural sounds, is woven by human culture to serve mental activity hidden from the external sense organs. The word alive with thought had been the core of Vygotsky's studies in philology and art since his youth.

There was a time when he saw it as a symbol of mysterious untraceable meanings hidden in the depth of the soul. Later, when he became

a sober explorer of combinations of words intended to change, through nervous mechanisms, the emotional structure of the individual, he came to interpret the word as an aesthetic sign. Reorganising behaviour, that sign acquires the status of a verbal reality which, unlike the organism's other bodily actions, creates the apparatus of consciousness.

This reality, by dint of its conventional character permitting the replacement of one sensual signal by another, introduces persons unable to hear and/or see to the riches of culture. It may well be that it was the observation of the word's powerful role in the organisation of human behaviour that led Vygotsky to the idea of the possibility of separating the sign function from the full-fledged word imbued with meaning in order to introduce that cultural sign in the psychology of the higher processes, imparting to it the role of a psychological instrument of their construction. When, in studying these processes, he passed on from attention, memory and will to thinking, his preoccupation with the word, pronounced and heard, as an embodiment of thought was a natural culmination of the whole of his previous search, on the one hand, and on the other, followed from the idea of the indivisibility of thought and language long established in the history of knowledge. This indivisibility, which had for centuries been the subject-matter of philosophical reflection, was regarded as an immutable postulate. This postulate, though, was called in question when the problem of relationship between individual thought and language independent of that thought was tackled by experimental psychology.

The first major step in the experimental study of personal thought was made by the so-called Würzburg school. It significantly advanced our knowledge of this process by proving experimentally that in solving intellectual problems the subject could do without sensual images and speech signs. Thus the conception was evolved of "pure thought" similar in content to Platonic ideas unburdened by anything earthly. Their links with the matter of language appeared accidental and external. That school took thought and word far apart; quite a different situation prevailed, however, in the natural-scientific camp, which rejected the theory of consciousness as an incorporeal essence. The visible or pronounced word, which required work on the part of bodily organs – receptors and muscles – was seen as a real equivalent

of that which idealist-minded psychologists took to be the incorporeal essence of human consciousness.

The speech reaction figured as a substitute for thought. Placed in the same series as the organism's other reactions, it was subordinated to the general laws of skill acquisition. Inasmuch as thought, unlike speech reactions, is inaccessible to direct perception by other individuals, that is, inaudible, the formula was suggested that thought is speech minus sound. Vygotsky could not accept either of these approaches and sharply criticised both. Taking thought and speech apart, just as merging them together, was tantamount to eliminating the problem, to closing the path to analysis of the relations between them.

For Vygotsky, the decisive aspect of these relations was the genetic one in the context of the theory of the development of higher psychical functions. The problem of partnership between thinking as one of these functions and language as a system of socio-cultural signs, occupied a central position in Vygotsky's psychological search. His principal contribution to world science is rightly linked with what he achieved in this area, with his last monograph *Thought and Language*.

In the preface to the work, he wrote: "This book is the result of the almost uninterrupted work over ten years by the author and his associates over the study of thought and language. When that work was begun, we did not see clearly either its final results or even numerous problems that arose in the process of research."[222] Vygotsky stated openly that, as the work advanced, the original hypotheses were unfolded but at the same time a great many ideas that seemed correct at the beginning had to be discarded as outright errors. As Vygotsky insisted that he had worked continuously on that monograph for a whole decade, it may be assumed that the whole of the Moscow period of his work was coloured by it.

222. L. S. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, vol. 2 (Moscow: Pedagogika Publishers, 1982), p. 8.

Of considerable interest for the understanding of the dynamics of Vygotsky's work is the fact that the aforementioned preface to his chief monograph stressed this point: "The central line of our research invariably developed in one principal direction chosen from the very beginning . . ."[223] It is thus clear that not only the theme but also the "magic crystal" through which Vygotsky looked at the far horizons of future research appeared before the point in time (the late 1920s-early 1930s) beyond which this research assumed a grand scale, with

223. Vygotsky, p. 8.

numerous disciples rallying round him.

It will be appropriate to remind the reader that already in Gomel Vygotsky chose as the – first theme of experiments in the psychological laboratory he organised the study of transfiguration which thought undergoes in translations from language to language. Let us also note that Vygotsky became absorbed in these problems at the time of a crucial shift in West European science towards a study of questions of general psychology (and construction of a global psychological theory), which was guided by the principle of development. Empirical materials for these studies were drawn from zoopsychology, above all from those branches of it that dealt with the behaviour of anthropoids (Köhler), the phylogenesis of the psyche (Levy-Bruhl), and especially its ontogenesis, which was widely explored in that historical period by the leaders of many schools (Freud, Koffka, Bühler, Stern, and Piaget).

Immersion in ontogenesis invariably shifted the problem of thought and speech into the focus of analysis, but now it was given a new slant. A search began for the mental relations between processes inalienable from the subject and the external, verbal processes of their expression. The very significance of these relations had been rejected, as we have seen, by older schools, those that looked back to the kingdom of Platonic ideas (such as the Würzburg school), on the one hand, and those who did not see anything in thought apart from inaudible movements of the articulatory apparatus, similar to the movements in playing golf or tying bootlaces (as asserted by behaviourists), on the other. As for the new psychological schools, they rejected both the taking apart of thought and speech, and their identification with each other. They sought for the character of links between thought and language conditioned by psychical development and put forward new theories and accumulated empirical materials of a heretofore unknown kind. That stimulated Vygotsky's thought and urged him to correlate his ideas and results with the data of Western researchers.

As a rule, his efforts in this direction developed into polemics, at times very acute, with these researchers. The disputes proved highly productive. Preparing the monograph *Thought and Language* for publication, Vygotsky included in it as separate chapters his previously published articles devoted to critical analysis of Wolfgang Köhler's aforementioned studies in the intellect of anthropoids and his preface

to a translation of another famous book, Jean Piaget's *The Language and Thought of the Child*.

Any attempt at analysis of the links between thought and word inevitably runs into problems that lead far beyond the limits of studying this relationship. The first problem to arise here is the nature of psychological cognition. How is one to cognise thought that is directly experienced by the subject of thought and inaccessible to external observation? Language is quite a different matter. It is given objectively, in the sounds of oral speech and in the letter signs of written speech. It is therefore hardly surprising that the very first works on developmental psychology, to be strictly objective, had to deal with records of signs (words) used by the child, as unquestionably objective indications of the volatile processes of his inner psychical life like perception, thought, etc.

The trap in which the daring pioneers of exploration of the secrets of the child psyche found themselves was due to a very simple circumstance. The word is a sound imbued from the outset with meaning. Meaning must be attached to a speech sound; without this act, the speech sound cannot be understood as a word, as something different from a mere sound irritant. But meaning, or sense, is faceted by the history of a people's culture. It is guarded in the language system in order to preserve relative stability for the sake of men's joint intellectual activity based on understanding that word.

Similarity of the external form of words used as instruments of mutual understanding does not in itself ensure the identity of their inner form, or meaning. Embarking on the study of child speech, the researcher may thus fall victim to an illusion of identity. In other words, he can endow the words of that speech with a meaning which is embodied, in the language system and which he himself, being a prisoner of that system, associates with the word with a similar sound in child speech.

Vygotsky first came up against that illusion in the works of William Stern, who made the first attempt to define the principal stages in the development of child thinking. The stages were determined with the aid of an elementary test, that of describing a picture, In describing the content of a picture, children of the younger, pre-school age named separate objects; older children, elementary actions associated with

those objects; and finally, in the next age group, their accounts reflected relations between these objects. On the basis of that information, the conclusion was drawn about the stages in the development of child thought that figured in all the textbooks on psychology: the child first perceives the world as separate things and persons, later as actions of persons and attributes (qualities) of things, and finally, at the last stage, he grasps the entire system of the complex relations between men and things. Description of a picture was seen as a reflection of the level of child thought. The basis for this evaluation was obviously the grammatical categories of which child speech was constructed: substantive-object, verb-action, adjective-quality (attribute), etc.

Vygotsky, however, completely rejected the view that transformation of speech, changes in its grammatical categories from age to age, could be interpreted as projection of intellectual work of which a child was capable. To prove his point, he conducted the following experiment. Children were asked to act out what was there in the picture instead of describing it. It turned out that in play, children had a very fine grasp of relations; at the age of four or five, they dramatised the action in the picture, accompanying it by a narrative. Their reasoning capacity thus pointed to a reading at the scale of mental development (knowledge of relations) that was reserved, according to Stern, for senior school children. The schema of the famous German psychologist, a "profound observer of the development of child speech", as Vygotsky described him, was thus toppled over by a simple experiment.

Stern's error lay in the fact that, as he listened to child speech, he associated with the words an "adult" meaning embodied in the language structure. The child used a "name" which denoted an object. On this ground, the first stage in intellectual development was defined as thinking in objects. But this word, a substantive in adult language, had quite a different meaning for the child.

Vygotsky discussed this point with Stern during the 1931 International Psychotechnical Congress in Moscow. Recalling this episode, Vygotsky remarked:

> The most interesting thing that Stern said last year in Moscow was his psychological confession that for decades he had failed to notice the simple idea which now seemed as plain to him 'as a writing-set on his desk'. The point was that, semantically, the first word of a child is not a noun but a simple sentence … It is clear from this already that a child

> who pronounces separate words does not in actual fact treat the semantic aspect of the word as expressing the knowledge of an object, as an adult does, but uses it as a sentence, usually a very complex one …[224]

224. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 409–10.

Divergence between the sound of a word and its meaning made it necessary to bear constantly in mind the non-coincidence of two aspects of speech which Vygotsky called phasic and semic, or phonic and semantic. The sound of speech, being a cultural sign of a higher order, points to content distinguished with its aid. But content has a dual nature, as it were. It is a fragment of a world independent of and external with regard to him, and at the same time it is a part of his own inner world, of his thought. This general principle of the organisation of language is equally valid both for the child and for the adult. But, denoting one and the same object by one and the same word, the child and the adult operate with different psychical images of the object they refer to.

> A child and an adult who understand each other when they pronounce the word 'dog' refer this word to one and the same object and have in mind identical concrete content, but in the process, one of them thinks in terms of a concrete set of dogs while the other, in terms of an abstract concept of dog.[225]

225. Vygotsky, p. 167.

Every word generalises, but the mental operations employed in the construction of a generalised image of the object, and thus the structure and satiation of the image by content, differ. To trace the genesis and history of these operations elevating the child's thought to a level at which it can work in the mode of assimilation of the world in terms of scientific concepts – that was the master plan of Vygotsky's inquiry. From his very first steps a child is led along the path of psychological development by adults. Communication with them serves as a necessary condition for each new turn of his thought. Communication assumes understanding, and the instrument of understanding is the word. But, as we have just shown, the word's "adult" meaning cannot be poured into the head of the little thinker together with the sign of the language. That meaning settles down in its consciousness in accordance with the way it establishes associations between impressions and groups them, generalising separate elements of its tiny experiences.

Only this intense mental work, subject to laws of its own, imparts meaning to the audible word. Vygotsky aspired to discover these laws engendering the higher forms of cultural behaviour regulated by intellectual structures of a special kind, the concepts, and not by sensual impressions. He was convinced that the path towards concepts

lies through several stages, to be discovered by specially organised experiments. Without progress in the study of the stages, the principle of development could not be realised.

According to Alexei Leontyev, who took a direct part in Vygotsky's search in those years, research in the processes of generalisation and concept formation in children was begun in 1927 by Vygotsky and Leonid Sakharov, and continued in 1928–1930 together with Yu.V. Kotelova and Ye.I. Pashkovskaya. We now know that it was in those years that Vygotsky's group began the study of higher psychical functions. It employed the method of "double stimulation", in which the subject faces two series of stimuli: a series of objects at which his activity, is aimed (e.g., memorising); these are the object stimuli; and a series of signs in terms of which it is organised; these are the means stimuli.

In the same period, Leontyev used that method, which arose out of the view of a cultural sign as a psychological tool, to study memory. Vygotsky, on the other hand, saw this method as an instrument that would reveal the miracle of the transformation, right before the experimenter's eyes, of a lower psychical function into a higher one; it would show how thinking in concepts is born and further developed. He used that instrument himself, and armed his colleagues with it. In the experiment, a subject faced a board with figures of different colour, form and size haphazardly arranged on it. On the reverse side of these cardboard figures the child could read some meaningless "word". The "word" was tacked on to figures which differed from the other objects in a combination of features previously stipulated by the experimenter. For instance, the nonsensical verbal sign *gatsun* was used to denote all the large and tall figures scattered on the board. Of course, the word "word" could only be used here in a very special or figurative sense. Indeed, under ordinary normal conditions the subject perceives the word as a sign of some content or meaning. It is on this content, and not on the sensual sign used to introduce this content in the subject's consciousness, that the normal work of thought is focused.

The word could be freed from content, and transformed into a sign of something unknown, for experimental purposes alone. That was the purpose of Vygotsky's attempt to trace the unfolding of the living process of thinking leading to the emergence in the subject's cons-

ciousness of an artificial concept (not a real one, for the time being). The procedure employed in the experiment was as follows. After the subject read the meaningless word, he was asked to select other figures that would be marked, in his opinion, with the same "word". Each try enabled him to check the features which each new figure had in common with the others or in which it differed from them. In this way, establishing step by step the ensemble of features artificially tied to an artificial sign, the subject discovered the meaning of the fictitious experimental concept.

What were Vygotsky's arguments in favour of this artificial device (employed before him by the German psychologist Narcis Ach) for the study of the mechanism of fabricating mental images, abstract and generalised, out of sensual perceptions? Why did not he follow the path of psychological analysis of the way in which children assimilate the real speech of the people around them? The experiment, he believed, freed the child from the "directing influence of the words of our language with their stable range of already established meanings".

The principal goal of his programme realised by the method of double stimulation was to bring to light "the child's real activity hidden from superficial observation". Vygotsky hoped to understand that activity "in pure culture", separating it from everything that was brought in by adult interference. That sounded as a paradox. The fact was that he delimited each higher psychical function from all the others, from elementary functions, on the criterion of that function's social primacy. Growing out of relations between men, attention, memory, thinking, all proved to be forms of the work of an individual brain only in the second place. But Vygotsky's orientation towards the study of the mechanism of mental development confused the minds.

The formation of concepts embodied in language terms in the child's mind had to have *a psychological logic of its own*, he was convinced of that. That was why no adequate explanation of this process could be provided either by the maturing of the higher nervous centres over the years or its interpretation as verbal learning of the skill type requiring communication with adults. Vygotsky was above all interested in what a child was capable of in the situation of independent solution of intellectual tasks, and what successive "layers" in the structure of its psychical apparatus could be scientifically explored with the aid of the

objective, experimental method.

The results thus obtained were briefly as follows. "On the whole, the development of concepts consists of three principal stages, each of which again falls into several separate stages or phases."[226] At the first stage, the word used by the child puts together in one heap impressions that have no internal cohesion whatever. The grouping of various objects in a certain set does not have in this case any roots in their objective connection.

226. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 136.

The motives of the grouping lie in the child's sensuous sphere. The grouping itself is random and unordered. A psychical image emerges in the child's mind which, despite its difference from sensation or perception, falls far short of concept. It may be termed syncretic (fused or inarticulate) image. In one brief formula, the specificity of children's thinking at the first stage can be defined as thinking in syncretisms. In this case, the child's thinking can intersect with an adult's, thought, about one and the same concrete object, and that is sufficient for them to understand each other. It would be an error to assume, however, that the meanings of words in a child and an adult coincide, since entirely different and highly specific operations underlie these meanings.

At this stage things are thus linked together on the basis of the child's own associations; a qualitatively new stage in his thinking is achieved when it groups the objects perceived on the basis of their objective links. Vygotsky referred to this stage as "thinking in complexes". He insisted that this long and stable phase must not be confused with thinking in concepts. He characterised in detail various types of complexes, pointing out that they may resemble concepts though in actual fact they are not that. He therefore called them pseudo-concepts, using the following example to illustrate them.

A child adds to the given model, a yellow triangle, all the other triangles which it has in the experimental material. Such a group could have been formed on the basis of abstract thinking (the concept or idea of triangle), but in fact the child does not yet have such an idea. What it has constructed is merely a limited associative complex. In terms of outward similarity, a pseudo-concept resembles a true concept in the same way as a whale resembles a fish.

According to Vygotsky, a complex is a shadow of a concept, its

outline. In is not a sign but an image, a mental drawing of a concept, "a short narrative about it". This image serves as a connective link between thinking in complexes and thinking in concepts. A true concept is born when features of different phenomena are grouped together or integrated – not through a play of associations but on the basis of inherently connected logical operations of analysis, synthesis, classification, and movement of thought from the particular to the general and from the general to the particular.

The effect of these operations is acquisition by the word of a new meaning, different both from syncretisms and from complexes. The concept as a logically generalised mental image arises. We have seen that the method of double stimulation employed by Vygotsky and his colleagues to study the process of the formation of concepts was artificial not only in the sense that the subjects operated with fictitious words, like *gatsun*, and fictitious concepts (for instance, the term *gatsun* had to be used as a generalisation of all large and tall figures), but also because the child was expected to solve an intellectual problem by himself, outside real speech communication. But the development of thought clothed in words is impossible outside communication with other individuals. That was quite plain to Vygotsky from the very beginning.

We know already why he chose an experiment that excluded verbal communication. It was with the aid of that experiment that he obtained reliable and objective results which have become an important element of psychological science, results which he believed to be among the principal achievements of his school. It was proved experimentally that the *meanings of words develop*. Meaning, this further indivisible "unit of verbal thinking", goes through several stages in the ontogenetic development of the human psyche. Vygotsky defined both the "anatomy" of that cell and the evolution it goes through from the child's first words to its functioning in the mind of a senior school child. He succeeded in tracing how that cell emerges and what transformations it undergoes.

The most important result of his study in the dialectics of the transition from sensation to thought was the proof that underlying thinking as a generalised reflection of reality, a special kind of knowledge about it, is a system of operations – mental actions whose quality determines

this knowledge. The transition of verbal thinking from one stage to another – from syncretisms through complexes to concepts – also emerged as a transition from one system of mental actions to another.

All these were novel and fundamentally important elements in the psychological theory of thinking. However important all this might be, Vygotsky could not be content with the fact that the experiment revealed the function of the word as a means of generalisation by the child of the phenomena and events of the surrounding world. He interpreted generalisation as an action indivisibly linked with communication, with the word's communicative function. Proceeding from artificial experimental concepts to natural ones, he shifted the focus of his analysis to this communicative function. The issue became especially urgent in connection with the problem of relations between the development of the child's psyche and its teaching. From the cradle, a child is surrounded by adults, and their influence on it is in the nature of teaching.

As we have noted, the elucidation by the Vygotsky school of the properly psychological laws of the development of the mind and other psychical functions involved the overcoming of two forms of reductionism – biological (which saw development as the maturing of an organism) and sociological (which reduced development to the "appropriation" by the child of society's gifts thrust on it by adults). It followed from the standpoint of biological reductionism that "education dragged behind development", as it was against nature to interfere from the outside in the ripening of a fruit which was taking its course.

As for sociological reductionism, it completely ignored the proper inner logic of the transformations which a child's inner life goes through with the changes of the "seasons of life". In his polemics against the adherents of these two approaches, which dominated psychology, Vygotsky worked out his own position on the issue of links between education and development. This position embodied the concept of the zone of proximal development, which now figures prominently in pedagogical psychology. In Vygotsky's view, education, correlated with development, must anticipate the latter, it must run ahead as the adult helps the child to climb the next step.

In any development, the actual and the potential must be distinguished. The actual level is determined by the tasks which a child is

capable of solving by himself, the potential, the one at which he needs the help of adults. Education thus emerged as activator of development.

In assessing the idea of proximal development in a historical perspective, we see that of all the innovative ideas of Vygotsky, it proved the most fruitful. It was in connection with this idea that the prominent American psychologist Jerome Bruner, observing the situation in world psychology in the early 1980s, came to the conclusion that the star of Vygotsky rose in the West, while the star of Piaget was eclipsed.[227]

The concept of proximal development produced a great many offshoots in developmental and pedagogical psychology, especially in the USA. In these days, it is tested in numerous experimental studies involving different groups of children solving different intellectual tasks first independently and then in partnership with adults. In this way, the scope of the zone is tested. This experimentation permits the diagnosing of the child's hidden potential brought into the open in joint activity with other persons.

In his notes on the zone of proximal development Bruner suggested that Vygotsky had a "hidden agenda", which envisaged the substantiation of two ideas:

(a) the important role of consciousness in human affairs,
(b) the principle of collectivism in the sense in which goals are achieved in socialist society.

This can be accepted, but Bruner's suggestion that Vygotsky had to hide his views on the activeness of consciousness because they led to a confrontation with official ideology is untenable. Contrary to Bruner's suggestion, those views in no way undermined the theory of historical materialism, which never regarded the individual as a puppet moved by blind social forces alien to him. Just as untenable is the other of Bruner's suggestions concerning the "hidden agenda" of Vygotsky's work, namely, his proof of the basically collective character of the work of the human mind. Vygotsky is alleged to have had to encode his approach because it contained an interpretation of collectivism; similar to that of the anarchist Pyotr Kropotkin.

However, there is also a rational element in Bruner's arguments – his view of the zone of proximal development as something more than a local phenomenon pertaining to a special method of teaching a child. Bruner saw this concept as embodying a new philosophy of personality

227. J. Bruner, "The Zone of Proximal Development: Hidden Agenda," chap. Children Learning in the Zone of Proximal Development, ed. B. Rogoff and J. Wertsh (San Francisco–Washington, 1984), p. 96.

evolving in a definite socio-cultural stratum, namely in Soviet society which was going through a period of cultural revolution. This aspect was of no interest to American psychologists, who enthusiastically received Vygotsky's theory and rushed in to test its various aspects experimentally.

For the author of the theory, however, it had a deeper meaning, providing as it did a new explanation of the basic problems of the psychology of man, of the determinants of the development of his intellect and personality. Bruner's notes on the zone of proximal development rightly switch the consideration of it from the plane of empirical study of the child to quite a different plane: they make us look away from the object of cognition to the instruments available to the science concerned with that object.

These instruments are usually said to include methods. One cannot mount experiments in a laboratory or a clinic without a mastery of experimental schemata, procedures, etc. But the procedures themselves always depend on "tools" of a higher order – methodology rather than methods, and the most important of these methodological tools is the categorial apparatus of science. Such categories as consciousness and communication are an obligatory part of the network of the principal concepts of psychology.

Science can discern the reality it studies only with the aid of that network, just as the eye's retina reveals to the subject the visible world. Vygotsky's vision, which distinguished him from contemporary psychologists and determined the now generally accepted fact that he was far ahead of his times, was conditioned by the transformations which his work produced in the network of psychological categories. We must say again that Bruner rightly singled out, among these categories, consciousness and communication ("collectivity") as features of the theory of proximal development unknown to Western science, although we must also note that this was only a part of Vygotsky's contribution.

Bruner is also right in that he regards the categorial shift not only as a spontaneous creation of a genius but as a reflection in his work, in the sphere of psychological science, of the demands of the social environment that gave rise to it, namely, of Russia's cultural life in the first decades after the October revolution. Vygotsky was not only a Marxist, Bruner stressed, he also devoted himself to the intellectual

renovation of the Marxist doctrine.[228] This assessment is imprecise. Vygotsky did not "renovate" Marxism. Relying on Marxist philosophy, he laid the cornerstones of a new psychology operating with a network of properly psychological categories reconstructed in the spirit of that philosophy, which ultimately led him to his theory of the zone of proximal development.

228. Bruner, "The Zone of Proximal Development: Hidden Agenda," p. 94.

A line can thus be traced from socio-cultural atmosphere to the methodological (categorial) apparatus of science, transformed under the impact of this atmosphere, to concrete methods of the study of the child psyche on the basis of the concept of proximal development. This notion, concentrating, as we have seen, the effect of the impact of powerful cultural, philosophical and scientific forces, contained a new approach to the problem of personality and the factors of its development. At the same time it served as a guideline for practical action in diagnosing children's abilities and in their education.

The direct orientation of that notion at the solution of urgent everyday problems in the study of children and development of their abilities made it particularly attractive. Vygotsky's credo, "philosophy and practice", was embodied in this notion so organically that it could be the envy of any scientific construction. Other conceptions of development, which were increasingly spreading in developmental and pedagogical psychology in Vygotsky's times, were also intended to meet the demands of practice. Vygotsky knew these systems very well. His own views took shape in tireless polemics with the theories of behaviourists, Gestalt psychologists, testologists, psychoanalysts, William Stern, Jean Piaget, and others.

Despite all the differences between the latter, they were all branches of the same tree rooted in the philosophy of individualism with its interpretation of the psyche as a special kind of entity in whose transformations, from the cradle to adulthood, communication between men mediated by language played no role at all. The point was not, of course, communication by itself but an understanding of what each of the communicants is and what operations he performs.

In working out the concept of the zone of proximal development, Vygotsky entered an area that had been beyond his quest in the previous period. The first problem to be singled out in this area was that of personality, of its potential and of its individual differences.

Pedagogical practice has to take these differences into account every day. In one case, a child can cope with a problem by himself, while in another, only with the aid of the teacher. The distance between doing something independently and with the help of another indicates stages which thought goes through. These stages do not coincide in different children. The pedagogue must, therefore, realise on which of the numerous layers of the soil his word falls. In one case it is adequate to an achieved level of the scale of development of the child's thought, in another, it is so distant from this level that it cannot be assimilated by the child.

Had Vygotsky restricted himself to this general proposition, his position would in no way be different from the requirement, long established in pedagogical psychology, not to regard the child as a small adult, and to construct education in accordance with the specificity of his consciousness. Vygotsky's decisive step was made in another area. He regarded the adult's word not just as a source of information to be assimilated but as a lever with which the child's thought, with its structural characteristics, is shifted from level to level.

The Fate Of The Word In The Life Of Individual Thought

A basically new element in Vygotsky's work on his overall programme was the transition from the category of signal to that of sign. Recourse to the sign was anti-psychological in its orientation. The sign was seen as having an objective quality of, its own. This became an effective antidote against young Vygotsky's enthusiasm for impressionistic theories dissolving art in the play of emotional experiences produced by its symbols. The concept of signal originated in natural-scientific thought, but Vygotsky sensed certain limitations here, along with the advantages inherent in natural science. The signal concept did not lead to an explanation of man's psychical activity in the socio-cultural world. Contrariwise, the sign concept was part of the structure of that world.

It was no accident that Vygotsky added the epithet "cultural" to the term "sign". But the sign concept that emerged in the anti-psychological tradition could not be adapted to the solution of psychological tasks. And yet, relying on this product of the theory of art, he cross-fertilised it by the concept of signal regulation of behaviour worked out in biology, and "grew" as a result a special kind of a cognitive "hybrid" – the concept of cultural sign. It became the core of his theory, which he termed cultural-historical.

Like the signal, the sign serves as a means of distinguishing between the properties of the surrounding objects and of controlling on this basis the organism's behaviour. But the signals come from external objects as such. The organism "fishes them" out of the environment,

defining the reference-points of its actions in accordance with their indications, whereas signs are produced by men as a special kind of tools – instruments intended to control inner psychical functions. A sign is always a representative of some thing else, called meaning. When it points to another object, it serves as a mediator between the subject and this object. Let us recall, e.g., the child's movement towards an object in an attempt to grab it. When the attempt fails, and the goal is achieved with an adult's help, the movement, originally a motor act, becomes gesture. That gesture evolves, according to Vygotsky, into a cultural sign – a mediator between child and adult, between child and object, and at the same time a tool which a child uses to control both the adults' attention and his own. In this case, attention ceases to be a reflex psychical function and becomes a higher, volitional one.

The situation is radically changed when the mediator between the child and all the other three dimensions – the object, the other person, and his own psychical functions – is the word. Unlike the gesture, which is the child's creation, a product of his own activity, the word is drawn from the socium, being created by the people. It does not carry the meaning which the child attached to his cultural sign, the gesture of pointing at an object. The word's meaning is stable and invariant, it is prompted by the history of the system of language of which it is a component.

We have already considered the tortuous path, studied in detail by the Vygotsky school, of assimilation by the child's mind of the meaning with which the word is endowed as the product of the life of the people. That meaning is assimilated in the process of communication, of verbal activity. The farther Vygotsky advanced, the clearer he saw that the problem of meaning was also a *psychological* problem, not just linguistic or logical, as was usually assumed. The reader will remember that he believed his principal discovery to be the fact that meanings of words develop. That was certainly true.

Changes in the meanings of words had long interested linguists. Historical material clearly showed shifts in the semantic content of lexical elements of language. Retaining their external forms, these elements assumed new inner forms reflecting the social demands. But no one had studied before Vygotsky the laws according to which word meanings changed in the work of the individual mind. He used the

subtle and elusive indicator of changes in word meanings to show the mind's evolution with age. He successfully penetrated the dialectics of the transition from sensation to thought, from operations on the material of direct sensual experiences to special modes of reflection of reality in the categories of intellect.

But there was yet another plane here – the dialectics of the relations between thought and word. Vygotsky insisted on a dialectical character of the connection between them, rejecting theories which either split speech into two, asserting that its phonic and semantic side existed separately, each in its own right, or believed that both sides were structured on the same model.

Vygotsky wrote,

> The structure of speech, is not a mere mirror-like reflection of the structure of thought. It cannot therefore be put on thought like a dress. Speech is not an expression of readymade thought. As thought becomes speech, it is restructured and modified. Thought is not expressed in the word, it is performed in it.[229]

The postulate concerning absence of fusion of thought and word, on the one hand, and their indivisibility, on the other, took shape in the philosophy of language, in the works of Wilhelm von Humboldt and later of Alexander Potebnya. From this philosophy, Vygotsky passed on to psychology, to the study of the way in which thought was realised in the word-creating activity of a concrete individual, in his speech activity. He endeavoured to solve that task by the means of a concrete science, with its experimental and clinical methods.

229. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 307.

Explorers of human consciousness inevitably came up against the relation of thought as an intra-psychical process to the word as a means of its expression in sign form open to objective perception. But Vygotsky observed that they blocked their way to revealing the nature of this relation from the outset, by taking sound and meaning apart, by assuming that the connection between them was purely external and mechanical, similar to the relation, let us say, between man and his coat. The one reminded the subject of the other. According to Vygotsky, though, meaning "belongs to the kingdom of speech in the same degree as it belongs to the kingdom of thought".[230] It is a cell of the integral process of verbal thinking. But it is also a means of communication.

230. Vygotsky, p. 17.

The unity of communication and generalisation embodied in speech units was yet another guiding principle in Vygotsky's studies of speech

functions. Speech itself was analysed in his works from different angles. The most significant results he obtained pertained to the elucidation of the psychological nature of the relations between oral and written speech, between external and inner speech. He correlated his approach with the idea, originally formulated by Humboldt, that language is an ensemble of multiform speech functions. Accordingly, forms of speech differ in vocabulary and grammar. These differences, studied from the linguistic point of view, would also have to be considered from the psychologist's standpoint.

He described written speech as the "most verbose, precise and expanded form of speech"?[231] It is secondary and derivative from oral speech, which is dialogical in its very nature, arising as it does in a situation of direct communication, of exchange of remarks between interlocutors. The possibility of mutual understanding is determined by the degree of community of the inner intellectual structures in each of them. Since they are aware, as a rule, of the theme of their utterances, bearing it in mind, so to speak, there arises a tendency towards predicativeness in oral speech, towards suppressing any mention of the theme while at the same time communicating to the interlocutor the ideas arising in connection with this theme. The subject is thus implied. The predicate must be communicated. This analysis is psychological and not grammatical. Accordingly, the subject of the utterance and the judgement associated with it (the predicate) should be described in terms of the interlocutors' psychology rather than in grammatical categories.

231. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 339.

Vygotsky cited the following elementary example to illustrate this approach. In the sentence "the clock fell", "the clock" is the subject and "fell", the predicate. Imagine a situation, though, in which you hear some noise and ask, "What's fallen there?" To this, someone will reply with the same sentence: "The clock fell." Isn't it obvious that the meaning of the sentence is different here? The subject now is "fell", as it is the theme of the utterance, that which we speak of, while the word "clock" performs the role of the predicate. "Extremely varied mental opinions can be concealed by identical grammatical structures."[232] To make the psychological predicate (or perhaps any part of the sentence) stand out, the speaker uses a wide spectrum of auxiliary means with which oral speech abounds – intonation,

232. Vygotsky, p. 309.

expressive movements, etc.

As oral speech folds up, it loses it sound integument and becomes internal articulation of words inaudible to the people around but affecting the individual's external behaviour. This form of speech activity had long attracted the attention of psychologists. It became one of the premises for the development of the familiar idea of interiorisation, or transformation of external reactions into internal ones. It was in connection with the phenomenon of inner speech that this idea was taken up by John Watson, the first leader of behaviourism. One of the principal difficulties he faced in his attempts to put an end, once and for all, to the idea of consciousness as the subject's distinct inner world was the self-obvious fact of man's mental work that was devoid of any external corporeal expression. Watson insisted that this fact could be explained in much the same way as Columbus solved the problem of standing an egg on its end. The so-called inner thought, he said, was nothing more than ordinary speech reactions, just as corporeal and objective as all the others, only turned inaudible through the inter mediate stage of whispering.

Other researchers, too, supported the idea that inner speech existed as a special form side by side with others. Taking up this conception, Vygotsky developed his own innovative theory of it. His point of departure here was the study of yet another variety of speech observed in children. This variety attracted the attention of the young Jean Piaget before Vygotsky be came interested in it. Piaget called it egocentric speech. It is oral, and thus has external expression, but, unlike the oral speech of adults, it is not addressed to another interlocutor and is not intended to be understood by that other. Piaget explained its specificity by the egocentricity of children's thinking. Here he followed Freud's theory that the child's psyche and behaviour are basically ruled by the pleasure principle.

Absorbed by the overriding drive for pleasure, the child ignores external reality. Its thinking is autistic. It does not seek for the truth about the real state of affairs in the surrounding world but is focused largely on gratifying its desires. Hence the egocentricity of its thought. Of course, that is not all there is to it. The child also has to adapt itself to the demands of the adults. Its speech is in this case socialised. But side by side with this speech it has its own logic of "dreams and

daydreaming". It is this logic that is expressed in egocentric speech; here the child shows no interest in whether it is listened to or not, whether it is understood or not. It speaks of itself only, addressing no one.

Piaget made a most thorough study of a child's utterances at different ages, collecting statistical data on the proportions of socialised and ego centric speech in verbal activity. Piaget showed that the proportion of egocentric speech is very high at an early age. Vygotsky did not doubt Piaget's data, for he himself had observed such children's utterances addressed to no one.

Piaget's first book about the child's speech and thought appeared in the early 1920s, and soon attracted the attention of the whole psychological world. Vygotsky's circle read it, too. When the book was translated into Russian, Vygotsky wrote a lengthy introduction to it, a whole treatise in fact, which later became a chapter in his monograph *Language and Thought*. The translation appeared in 1932. But Vygotsky had studied Piaget's facts and theory several years before. He was particularly interested in the problem of egocentric speech, but he drew quite different conclusions from Piaget's materials.

He and his colleagues began to check these materials, embarking on an experimental and clinical study of the fate and functions of egocentric speech in childhood. The fact that Vygotsky attached great significance to his new hypothesis is proved by the following circumstance. In 1929, Soviet scientists were preparing for the Ninth International Psychological Congress to be held in the USA. Thinking over their report, Vygotsky and Luria wanted to choose a subject which would show young Soviet psychology to advantage; it had to be a psychological theme, for the achievements of Soviet science were at that time judged only by the theory of conditioned reflexes. Vygotsky and Luria chose their studies in egocentric speech. The paper was written by both authors, but it was read at the Congress by Alexander Luria. Vygotsky did not go for reasons we do not know for certain – most likely on doctors' advice, since the state of his health was still far from satisfactory.

The report was presented in both their names, for very good reasons, since Luria participated in the experimental work together with Vygotsky. However, the general methodology and the special methods

of the work, as well as the interpretation of the results, were undoubtedly Vygotsky's, as proved by the fact that they are presented in his monograph *Thought and Language* without references to Luria.

Concentrating on a seemingly specialist, particular issue, the elements of child speech emerging at an early age and disappearing on the threshold of the school age, Vygotsky revealed, through his analysis of that small-scale phenomenon, the mainline of the development of human thought and language. Giving Piaget his due for attracting psychologists' attention to a fact that was usually ignored, he entirely disagreed with his Swiss colleague on the explanation of that fact. According to Piaget, egocentric speech played no role in the child's behaviour and thinking. It emerges as a result of his insufficient socialisation, and the proportion of the child's utterances "for itself" rapidly declines with age, dropping to zero by the age of seven.

In numerous experiments the Vygotsky group proved that egocentric speech was not a byproduct of child activity. The moment it was impeded, its free flow hindered by the introduction of some obstacle in the child's solution of a task, its proportion immediately increased. It turned out that egocentric utterances perform a useful function. In these utterances, the child discusses how best to overcome an obstacle, outlining a plan for the solution of the problem.

On the basis of his experiments and analysis of the dynamics of that speech, Vygotsky formulated a hypothesis which he believed to be a key to the mystery of the relations between thought and word. He saw egocentric speech as the principal method for the study of the nature of inner speech. In this sphere, too, he was guided by the well-known law of transition from the child's social activity to his individual functions. Here, the function in question was thinking in the form of inner speech. "Speech for oneself," Vygotsky remarked, "emerges through differentiation of originally social speech for others."[233]

The development of inner "speech for oneself" goes through an intermediate stage, at which "speech for oneself" is external. That is ego centric speech. Being external, it can be record ed, and its structure, components, and links be tween them could be objectively studied. Herein lies its immense advantage for the psychologist, as he is powerless to observe inner speech. Taking into account the features distinguishing egocentric speech – its compressed quality, merging of

233. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 320.

words, incomprehensibility to the other (since the child speaks for itself only), and so on, the psychologist extracts information which gives him an idea of the character of inner speech.

The first important conclusion drawn by Vygotsky was the statement of the erroneousness of the familiar view which reduces the differences between oral and inner speech to the loss of the sound integument in the latter. Rejecting this conception of inner speech, Vygotsky defined its hidden architectonics in such terms as total predicativeness (the subject of the inner judgement being always implied, for we always know what we think of), fusion and abbreviation of words, etc. This speech is not a mere reproduction of oral speech differing from the latter in muteness only. Everything is different in it – grammar, semantics, and even the physical side (in oral speech, this side is represented by sounds, in inner speech the sounds are not heard, but the sign component left behind by the sounds is nevertheless retained in it).

Vygotsky paid special attention to the semantic structure of inner speech. It operates with meanings, generalised images of objects and phenomena on which a person reflects in the form of speech for himself. These meanings have a stable invariant nucleus. If there were no such nucleus, "transmission of thought", communication between individuals, their mutual understanding, would be ruled out. Meaning as a stable component of language system is usually explained in dictionaries. These meanings, belonging to the whole people, form the framework of the thinking of the speaker of a given language.

Alexander Potebnya distinguished between two types of meanings: the proximal one, accepted by the people as "one philosopher, one thinker", and the distal one, which fills the proximal meaning with additional features attached to it by individuals or small groups of individuals.

In the consideration of language as an integral "organism", one singles out proximal meanings as its lexical "cells". But in individual consciousness, in living speech, proximal meanings are accompanied by a great many overtones, by various nuances reflecting the need for the expression of new impressions and ideas arising in the situation in which the communicating subjects solve their problems. These situational meanings embody the fate of the word in the life of thought.

Before Vygotsky, psychology, which dealt with individual thought, passed over these meanings in silence. He proved experimentally that, being social in origin, these meanings emerge in external speech and only later acquire a special form of being in inner speech. As a result of this transformation, they have no external expression, accessible to objective observation and analysis, the latter form, according to Vygotsky, the "substance" of the individual's inner world, of his consciousness. Having traced the "adventures" of the word, its trans formation from external speech into inner via egocentric speech, Vygotsky again turned to the psychology of consciousness.

In the ten years since his declaration at the Petrograd Congress, in polemics against the reflexologists who were there in the majority, that the principal object of studies in human behaviour was consciousness, his way of thinking had radically changed. At the beginning of that decade, which was to gain him fame in the history of world psychology, there were no other notions about consciousness except the view that it consisted of elements of sensation, representation, thought, emotional experience, etc.

Vygotsky postulated the *meaning of the word as the primary unit of consciousness*. That was a truly revolutionary step forward, for the meaning of a word is a phenomenon of culture born in the crucible of its history, in the depths of men's social relations. Imparting to it the role of a principal structural element of individual consciousness meant to revise totally the centuries-old conception of it as the individual's inner world rooted in itself and not in something external, social, cultural and historical. Vygotsky's interpretation of inner speech therefore went far beyond the consideration of a particular function of speech – a vague phenomenon hardly accessible to objective study, regarded, besides, as a rudiment or residue of such primary tools of human behaviour as oral and written speech. He proceeded from speech and its fluid chunks quickly following one upon another to the socio cultural nature of consciousness as the highest psychical regulator of the individual's life activity. However, there were weak points in this schema.

In the logical, philosophical and linguistic tradition, the meaning of a word is an intellectual product. Speech was correlated with thought. Solution of cognitive tasks was imposed on thought. Meaning was regarded as a form of generalisation, and the latter was a mental

operation. Vygotsky clearly realised, though, that "thought itself is not born of another thought but of the motivating sphere of our consciousness which comprises our drives and needs, our interests and urges, our affects and passions".[234]

The problem of the motive elements of thought, of the forces controlling its flow therefore moved into the key position. "Under lying thought is the affective and volitional tendency. Only the latter can supply an answer to the ultimate 'why' in the analysis of thought."[235] Concentrating on this "ultimate why", Vygotsky became immersed in a new problem area. In his usual fashion, he began with a consideration of that area in a broad historical perspective. Formerly, he had worked in this field in connection with the psychology of art. In his polemics in those days against the view of art as a special mode of cognition he stressed the emotions which artistic works were intended to evoke. He saw these emotions – affects or passions – as reactions of an integral organism organised by the objective structure of that which was created by the human hand.

The approach to the organism as a whole in which the corporeal and the spiritual are attributes of a unitary substance was borrowed by Vygotsky from Spinoza's Ethics. Spinoza's theory of emotions was perceived as a great model of an uncompromising monistic interpretation of man's psycho-physiological structure, a view evolved in opposition to Descartes' theory of the passions of the soul.

Spinoza overcame Cartesian dualism. That was the situation in the history of philosophical thought. But the whole of subsequent psychology, Vygotsky believed, remained at Cartesian level. He drew this conclusion from an indepth analysis of all the post-Cartesian attempts to answer the question "What is emotion?".

Vygotsky embarked on a vast historico-methodological work on this subject. Just as many other projects of Vygotsky, it remained in the form of an unfinished MS. The content of the MS must not be regarded as a secondary line in the work of his encyclopaedic brain. It had a direct bearing on the principal direction of that work – the search for the motive forces of verbal thinking, to which a key role was allotted in the system of the individual's psychical functions. "He who has divorced thinking from affect from the outset, has blocked forever his own path towards explanation of the causes of thinking itself,"[236]

234. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 357.

235. Vygotsky, p. 357.

236. Vygotsky, p. 21.

Vygotsky stressed. In his last monograph *Thought and Language* he did not discover that road, he did not begin moving along it. He only made certain preparations for the future. A critical analysis of the three hundred years of the history of the theory of emotions was a preamble to a theory which was to show the connection between affect and thought just as clearly as his previous studies had elucidated the links between thought and word.

Integral Schema Of The Structure Of Consciousness

Despite its vital and ever-lasting importance, the question of affects, emotions, of human passions, was one of the darkest comers in scientific psychology. Nikolai Lange called emotion the Cinderella of psychology. Vygotsky tried to restore it to the royal position in *The Psychology of Art*. It treated of the higher emotions – aesthetic ones, aroused by artistic works. Representing the class of the most intimate and tender movements of the soul, they had to be exhaustively explained, according to Vygotsky, in terms of the work of the corporeal mechanism.

He proposed a model of that work, but was not satisfied with it. This is indicated, first, by his refusal to publish *The Psychology of Art*, and second, by the fact that he never used again the explanations suggested in that MS, although he later recurred to the problem of aesthetic experiences on more than one occasion. The problem was a source of constant concern to him. There were two angles to it, as far as art was concerned. Works of art are full of portrayals of emotions which possess their characters, the intensity and lifelike quality of the portrayal being incomparably higher than the feeble descriptions of emotions on psychological treatises.

The other aspect pertains to the emotions of the real subjects creating and perceiving art. The difference between these angles was ignored by Dilthey when he defined the tasks of psychological research in the familiar formula "Shakespeare in concepts". It meant that the psychologist endeavouring to reconstruct the life of the soul in its

fullness must translate what is given in artistic images into the language of concepts. To Vygotsky, a connoisseur of Shakespeare, this formula was unacceptable not be cause he doubted, even slightly, the vital power of Shakespearian tragedies. He rejected that formula on quite different grounds.

He considered the reflection of human passions in artistic images to be a mode of cognition quite different from their perception in scientific concepts. However highly he might regard art, which totally absorbed his interest in his youth, the change from involvement with art to scientific research was due to his faith in the ability of science to affect human being by using means whose power had been proved by the entire historical experience of application of the principles of natural science. The most fundamental among these was the principle of determinism, which became the guiding principle of Vygotsky's entire work. For this reason, Dilthey's formula "Shakespeare in concepts" could mean either an explanation of the process of creation of works by Shakespeare, or an explanation, on the basis of the principle of determinism, of their perception by the listener or spectator.

The second theme was treated in *The Psychology of Art*, an essay in determinist analysis of the way in which the social technique of emotions can change the activity of the human organism, causing certain emotions in it. In his work, Vygotsky endeavoured to prove the indisputable right of explanatory psychology in an area which Dilthey believed to be open only to the second, the higher, or "understanding", psychology. Dilthey's theory took apart nature and culture, organism and the personality's mental work. Vygotsky saw at once that this conception was the principal obstacle in the way of the construction of a scientific psychology of higher psychical functions. These functions are formed under the impact of historico-cultural factors which Dilthey interpreted as the kingdom of spiritual values stretching beyond all that is material, corporeal, and earthly.

Vygotsky proved, not in words but in deeds, in theory and experiment, that the individual's inner world is built in the course of real interaction, mediated by cultural means, with other persons and with the objects in the surrounding reality. He thus refuted the Dilthey dichotomy, the idea of "two psychologies", not only on the plane of methodological reflection but also in his research practice. As far as

such higher functions as thought and speech are concerned, his research was most effective. But there was also a whole area of experiences connected with motivation, the area of emotions and drives, in which the idea of "two psychologies" still held its ground.

The overcoming of this position in the affective-volitional aspects of man's psychic activity became the prime task of Vygotsky's work in the last years of his life. He felt acutely that, unless it was solved, it would be impossible to create an integral schema of the psychical organisation of the human personality. Different versions of the "two psychologies" position were formulated in 20th-century psychology. A follower of Dilthey, Eduard Spranger, tried to substantiate this position empirically in his theory of the forms of life.

According to Spranger, there are three spheres of being – material, psychical or mental, and spiritual; man could only be understood in the context of the latter, reflected in group norms, the collective subconscious, and various values of culture. Just as Spranger, Max Scheier, who became known for his rejection of causal consideration of emotions for the sake of their purely descriptive phenomenology, opposed vital manifestations of life to those of the spirit. Developing the ideas of Blaise Pascal about the "logic of the heart", he analysed ethical, social, and religious emotions (shame, fear, honour, sympathy, etc.). While making men's communal life possible, they are, however, really rooted in supra-terrestrial spheres, according to Scheier. Opposed to these higher emotions, subject to semantic laws of their own, were lower or animal feelings inherent in the human organism as a part of nature. It was postulated that causal explanation is not applicable to the higher emotions, that they should be described in the categories of goal, value, meaning, but not cause.

Attempts to provide a causal, natural-scientific explanation to emotions consolidated rather than undermined this hopelessly dualist view. The most famous of these attempts was the theory formulated, independently of each other, by the American psychologist William James and the Danish anatomist Karl Lange. To the usual conviction that emotions affect the organism, producing various perturbations in it, they opposed the view that an emotion is not the cause of corporeal changes but their result. It was asserted that an emotional shock first hits at the physiological mechanism (the vascular system, according

to Lange, or the inner organs and skeletal musculature, according to James); changes in this mechanism are then sensed by the individual as emotional states – fear, anger, etc.

James expressed this view in the well-known aphorism: "We feel sorry because we cry, angry because we strike, afraid because we tremble."[237] Without a reaction of the lachrymal glands, trembling, etc., our perception of events would be purely cognitive, devoid of emotional colouring, warmth or spontaneity. It would increase our information about the irritants but would arouse no emotions rooted, according to this theory, in the physiological mechanics.

237. W. James, *Psychology, Briefer Course* (New York, 1962), p. 377.

Initially, Vygotsky accepted this theory as materialist and adequate to the scientific picture of behaviour. Soon, though, his attitude towards it began to change. There were several reasons for that. In this theory, it was the intra-corporeal processes that were seen as the fountain head, whereas Vygotsky saw their cause in the socio-cultural world external with regard to the individual. With regard to the emotions' effective role in human behaviour and ability to change its course, the James-Lange theory took a totally negative position. For this theory, emotions are merely a byproduct of the body's work, just as little affecting this work as the locomotive's whistle affects its running. At the, same time this theory, laying a claim to explanation of the elementary affects (fear, anger, etc.), could not explain the higher emotions – intellectual, moral, etc. It thereby substituted description of these emotions for their analysis, tacitly sanctioning the monopoly of them for those who rejected the very possibility of their causal explanation.

The last "heroic attempt to preserve the strictly determinist causal psychology of affects"[238] was made by Freud. Striving to remain true to the positions of strict determinism, without reducing it to physiological mechanics, he locked man in the circle of hopeless psychical causality, in which the blind forces of sexuality and aggressiveness determine the things the subject sees on the screen of consciousness. Separating the individual from his real ties with the natural and social world, Freud inevitably broke off from the scientific determinist explanation of the motives of his behaviour in this world, of his emotional experiences.

238. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 281.

Defending the advantages of "understanding" teleological psychol-

ogy over "explanatory", or naturalistic psychology, Spranger recalled Plato's dialogue *Phaedo*, which contains the argument between Socrates and Anaxagoras, and what Spranger called the "Socratic paradox". Before taking poison, the great thinker disputed, if we are to believe Plato, the philosophical views of Anaxagoras who had in the past, on being accused of godlessness, ran away from Athens. Socrates himself refused to flee for his life, despite his friends' insistence. But his critique of Anaxagoras did not bear on his flight as an act in a borderline situation between death and life. He spoke of a global problem – the causes that direct human behaviour.

Socrates spoke of his youth, when he "made all haste to get hold of" Anaxagoras' books, "and read them as soon as ever [he] could, in order to discover without delay what was best and what was worst".[239] Talking to his disciples in the prison, Socrates spoke of the disappointment that awaited him when, on studying Anaxagoras, he found that the latter found "causes in things like air and ether and water and a host of other absurdities."[240] Are my actions controlled by the structure of the body, reasoned Socrates ("the bones move about in their sockets, the sinews, by lessening or increasing the tension, make it possible for me at this moment to bend my limbs, and that is the cause of my sitting here in this bent position"), or am I moved by another principle, my opinion of what is best, an opinion that compels me not to flee from prison, not to hide myself but to "submit to the penalty appointed by the State." "For, by Jingo," Socrates exclaimed, "I fancy these same sinews and bones would long since have been somewhere in Megara or Boeotia, impelled by their notion of what was best."[241] According to Spranger, the "Socratic paradox" refutes once and for all any explanation of man's actions which addresses itself to his bodily organisation. This organisation is merely an instrument with which the true spiritual cause operates.

239. Plato and R. Hackforth, *Plato's Phaedo* (Cambridge, 1955), p. 126.

240. Plato and Hackforth, p. 126.

241. Plato and Hackforth, p. 126.

The question which Plato's *Phaedo* raises of why Socrates remained in the Athens gaol was seen by Vygotsky as the prototype of the main problems of modern psychology. The James-Lange theory answered that question by "referring to lessening or increasing the tension of muscles bending the organs, and Scheier's theory, by pointing to the fact that his staying in the dungeon was meant to satisfy the highest feeling of value … Both answers are equally far from the

really scientific answer to that question."[242] Indeed, if Socrates had escaped from gaol instead of staying in it, his decision would also have been purposive and value-oriented. Neither the naturalistic nor the intentionalist theory "pay attention to the true cause", Vygotsky concluded.

242. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 296.

Now, what were the resources of scientific psychology attempting to find this real cause? To trace the origins of the ideas prevailing in the psychology of emotions, over which the curse of Dilthey's dichotomy hung, Vygotsky embarked on a study of its historical roots. He discovered that that dichotomy was more than two hundred years old, having emerged in the age of the triumph of the mechanistic world picture.

This picture was projected onto the theory of man in Descartes' famous treatise on the passions of the soul, of which a detailed analysis took up most of Vygotsky's lengthy MS. Descartes developed a schema of an automaton, a living machine capable of responding to external stimuli with muscular movements; he thus discovered the reflex nature of behaviour. He included among the products of this work in man not only muscular reactions but also sensations, representations, and emotions as the soul's states of suffering, its passions. They are played out according to the laws of physiological mechanics. As psychical phenomena, they are totally determined by this mechanics.

Descartes separated the bodily passions from the intellectual ones pertaining to a different substance, a purely spiritual one without extension. He explained the difference between them in simple terms in a letter to the Swedish Queen Christina Augusta, in reply to her question concerning the essence of love. There are two kinds of love, he wrote: sensuous love engendered by the nurturing needs of the organism as a physiological body, and intellectual love coinciding with the need for knowledge; the emotions associated with it, joy and suffering, are embodied in clear and distinct ideas. Combination of these two kinds of love so alien to each other – intellectual understanding and sensuous desire – is accidental in character and rationally inexplicable.

Turning to these ideas of Descartes, L.S. Vygotsky showed that psychology in the 20th century "lives and breathes, struggles and suffers in the vicious circle" of the Cartesian doctrine.[243] It was in the 17th century, at the time of the birth of mechanistic determinism

243. Vygotsky, p. 253.

which determined the triumph of the natural sciences, that the dualistic view of human nature asserted itself, of which the idea of psychology as two different systems of knowledge was a 20th-century projection. Vygotsky wrote in this connection, "Essentially, the dualist solution of the problem of human passions in the Cartesian doctrine … already contains the disintegration of the contemporary psychology of emotions into an explanatory and a descriptive theory of human emotions."[244]

244. Vygotsky, p. 284.

Vygotsky's in-depth historico-philosophical study led him to the conclusion that explanatory psychology and descriptive psychology were close kin. This was a decided departure from his earlier conviction that their sources and fates were different. Now he saw more and more clearly that they were Siamese twins. The one (explanatory psychology) was impossible without the other (descriptive psychology) as right was impossible without left.

History provided evidence of achievements which psychology owed to theories explaining mental phenomena in terms of corporeal causes. But these theories operated with determinist schemata of natural science – at first of physics (mechanics), and later of biology. They could not, therefore, take scientific thought to a peak from which qualitatively new levels of psychical life in forms inherent in man could be seen. Near that peak, Ariadne's clew of natural-scientific explanation broke off.

Every encounter with the living reality of human emotional experience inevitably compelled the addition of an indeterminist explanation to a determinist one. Every where, the psychology of emotions was split into "two parts which did not know anything about each other. One of them could think of nothing better than repeat the Socratic parody of causal explanation. The other, shrugs helplessly, … unable to explain scientifically the directly perceived link between feeling and the rest of the life of consciousness which gives it purpose and meaning, declaring that link to be outside scientific knowledge".[245]

245. Vygotsky, p. 287.

That was the real state of affairs along the whole front of psychological research. It followed from the Dilthey postulate of "two psychologies" that it could not be any different, but Vygotsky regarded it as a historically transient state, and the Dilthey dichotomy, as the last act in the "drama of ideas" ending in a total catastrophe both for

the mechanistic determinism of explanatory psychology and for the intuitivism of the "psychology of the spirit". On the one hand, there was the corporeal mechanism of explanatory psychology that knew neither meaning nor spirituality; on the other, the pure spirituality of descriptive psychology that knew no corporeality and was therefore devoid of real life in a world full of drama.

The life of man as an earthly being proved to be entirely meaningless, without a goal or value, and its higher feelings, absolutely lifeless.

> To preserve the life of emotion, we have to give up its meaning …; to preserve the emotional experience and its meaning, we have to give up life. In both cases we have to give up all hope of scientifically comprehending man and the real meaning of his inner life.[246]

246. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 288.

In Anton Chekov's play *The Cherry Orchard*, the last line was the words of an old servant forgotten in the boarded up house: "They've forgotten me …"

> What has happened in the psychology of emotions today can best be expressed in the hopeless cry of the character in Chekhov's drama – an ancient fellow forgotten in the abandoned house in which the windows are being boarded up: 'They've forgotten about man!'[247]

247. Vygotsky, p. 268.

Causality is the inalienable basis of scientific knowledge. If it is exploded, the study of the psyche is doomed to escape into empathy, intuition, and phenomenological analysis. However, former natural-scientific schemata of causality, having played their great liberating role, proved to be unsuitable for the explanation of human urges, emotions, and anxieties. The study of emotions, of the motive forces of human behaviour, demanded a radical revision of the former interpretation of the principle of causality. Vygotsky saw, better than anyone else, that the alternative to mechanistic and biological determinism in the scientific cognition of man was neo-determinism rather than indeterminism.

Old explanatory psychology had exhausted its potential. In his studies of perception, attention, memory, thought and speech, Vygotsky formulated the positions of a new explanatory psychology. This new determinist approach now had to be asserted in the theory of emotion and motivation.

Vygotsky had a vision or design for the psychology of the future. It would overcome the gap between the life of a material body, the human organism, and meaning, the spiritual values because of which

former explanatory psychology "forgot about man". But it would also have to overcome the separation of spiritual values and meaning from real life, which also made intentional (descriptive or "understanding") psychology, in its turn, "forgot about man". Both were guided by a defective model of the human personality, which was split into elements belonging to different spheres of being.

The task of new psychology was to comprehend personality in terms that would capture the integral quality of man as a corporeal-spiritual being uniting in his flesh and blood the natural and the socio-cultural. Contemplating the path that he would have to take in his study of motivational (emotional-volitional) determinants of man's behaviour, Vygotsky focused more and more on the concept of sense. He began to distinguish it from the concept of meaning. Let us recall here that originally he laid primary stress on the role of cultural signs in the general structure of the human psyche; later, though, he came to regard meaning as the principal element or "cell" of that structure.

When he was completing his analysis of meanings (in *Thought and Language*, written in the same years when he worked on the treatise on emotions), he was already beginning to distinguish between the meaning and sense of the word. He gave credit for their differentiation to the French researcher Frédéric Paulhan.

Studying the psychology of speech, analysing its semantics, Paulhan showed that the "formal" meaning of the word, as a separate item record ed in the lexicon, assumes a great many diverse shades of meanings in concrete contexts. The totality of all the psychological facts arising in our consciousness thanks to the word was called by Paulhan the sense of that word – a fluid and complex structure constantly changing "from consciousness to consciousness and, for one and the same consciousness, from one set of circumstances to another."[248]

Vygotsky believed, though, that Paulhan's principal achievement was not just this division between stable meaning and dynamic, mobile sense of the word. Paulhan's idea about the dissociation of the word and the sense expressed in it seemed much more important to Vygotsky. Meaning is "chained" to the word by the language system, whereas word and sense are connected by much looser ties. The word may exist without sense, and sense can be separated from the word and recorded

248. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 347.

in other words and contexts.

Following Paulhan, Vygotsky distinguished between meaning and sense. His interpretation of the term "sense", though, followed a direction different from the one taken by Paulhan in his study of transformations of meanings in different contexts. Instead of context, Vygotsky turned to understatement, one of the key concepts of Konstantin Stanislavsky's system. "As Stanislavsky teaches us, underlying each line of a character's text in a drama is volition directed at achievement of certain volitional tasks."[249] That is what understatement is. A new dimension was thus introduced in the analysis of verbal thinking. Originally, it was seen by Vygotsky as cognitive activity, as a process of unfolding personal thought in concepts –first everyday concepts and then scientific ones; with the transition to understatement, however, not an intellectual but a motivational act of volition, "setting in motion thought and speech"[250] showed through the inner plane of verbal thinking.

249. Vygotsky, *Sobraniye sochinenii (Collected Works In Russian)*, p. 357.

250. Vygotsky, p. 357.

Citing examples from Stanislavsky's stage directions and comparing text and understatement, Vygotsky showed that each line conceals volition, or volitional task. It cannot be grasped from the meanings of these words by themselves. It glimmers through the words, and can be understood if the motives of the behaviour of the speakers of those lines are known. The concept of understatement, drawn from Stanislavsky's experience as director, permitted Vygotsky to address himself to the motivating sphere of consciousness concealed behind the shroud of verbal judgements, to the sphere of urges and needs, interests and drives, affects and emotions.

Previously, Vygotsky believed meaning to be the principal unit of the psychical; now a new unit came to the fore, namely, sense. Meaning represented in the individual consciousness "the image of the world revealed in the word". Sense denoted the individual's emotional experiencing of the tense motivational attitude to the world, created by the volitional task. The hidden meaning of an action, including the generation of a word, can only be grasped if one knows the context out of which this task grows, and the purpose for which it is solved.

Vygotsky's outstanding contribution to science was that he showed, in the light of psychological categories, certain new facets of the word, which throughout the previous history of knowledge had been

regarded as a linguistic category. The word's inner semantic aspect is the product of the history and culture of a people. This is a familiar truth. In the works of Vygotsky, though, this aspect appeared as the inalienable texture of individual consciousness, a kind of retina determining the subject's vision of his world.

The external word is primary in relation to the word uttered by the inner voice. No one studied the structure and functions of this word "for oneself" in greater detail than Vygotsky. His hypothesis of inner speech is truly unique. It should be borne in mind that the idea of the origin of the intra-psychical word through a transformation of a system of real contacts between individuals in dialogue, in conversation, was only an application of the general principle of social determination of the individual's higher spiritual acts to the hidden processes of verbal thinking. Finally, the word as a psychological phenomenon had, along with the historico-cultural and social aspects, yet another "dimension" – it expressed the individual's emotional and motivational experiences. These experiences were embodied in the sense of the word; the latter concept was filled, in Vygotsky's system, with a content that was purely psychological and thus entirely different from that of the linguist or logician, both of whom widely use this term.

Vygotsky's contribution to the construction of a scientific picture of man's psychical world is highly valued both in the USSR and abroad. There is, however, a certain one-sidedness about the evaluation of this contribution; the dominant theme of his work is widely believed to be the psychology of consciousness, the development of thought and speech in ontogenesis. Indeed, he produced certain major ideas and important results in this field.

Once captivated by the behaviourist prospects of making behaviour the domain of a strict objective science, Western psychologists saw Vygotsky's works as a life-giving spring as they freed themselves from their old illusions and embarked on the path towards cognitivism. The principle of communicative mediation of cognitive functions in terms of signs is believed to be Vygotsky's principal achievement. This idea, however, should be regarded as one of the premises for a theory visualised by Vygotsky as an integral schema of the psychical organisation of the human personality, as psychology in terms of drama, in terms of the dialectics of thought, emotional experience and practical

action in the flow of man's being in the socio-cultural world.

Vygotsky's plans for the future were not destined to be fulfilled. He died on June 11, 1934. A much longer life would not be enough for Vygotsky to realise all his plans, but even those ideas and facts which he left us will live a long, long life.

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Lev Vygotsky

Lev Vygotsky, known as the "Mozart of Psychology", was one of the most influential psychologists from Soviet Russia. Vygotsky's genius swept a wide range of problems in psychology and education in his brilliant but short career. Vygotsky provided deep and unique insights to a variety of problems in both pedagogy and psychology. His theories have influenced a variety of fields and given a socio-cultural lens to researchers. This book traces the thought process of building of his system of psychology: the ideas and authors who influenced him along with newly formed Soviet society on his work and worldview. Each of the chapters thematically discusses various dimensions of his wide ranging work and is a scientific biographical overview of his life and work.

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